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Notes on a New Edition of Michaelis: Ancient Marbles in Great Britain

Part Two

C. VERMEULE AND D. VON BOTHMER

PLATES 104-116

SINCE the first section of these studies of classical collections in the United Kingdom appeared in *AJA* 59 (1955) 129-150, pls. 41-46, more information has been gathered concerning the histories and locations of antiquities imported into the British Isles since the Renaissance. Some information has come as a result of earlier studies, including Part One of the present series, and much has been discovered as a result of three months spent touring private collections in the summer of 1955. In several instances major sculptures which were in private collections or in the art market from well-known sources have found permanent locations, and in a number of cases the later locations of marbles which were classed as "lost" after passing into the auction rooms have been made known. There are also several cases where firsthand studies of traditionally celebrated antiquities have proved them to be of a rather different nature than has always been reported on the basis of early nineteenth century literature. This is especially true as regards collections, such as KINGSTON LACY, SHOBDEN COURT, STOURHEAD, WARWICK CASTLE, which Michaelis never visited and which he reported on the basis of observations made by Townley, Dallaway, Waagen, and the like. Several collections described here were unknown to Michaelis or F. Poulsen (*Portraits, EA* Series XI, etc.) and have never been reported in archaeological literature (e.g. ALTHORP, HAGLEY HALL, WEST WYCOMBE).

In spite of the title of his work, Michaelis never hesitated to catalogue important bronzes, mosaics, ancient paintings, terracottas, gems, and vases in the collections which he recorded. Since the days of Sir William Hamilton, Ambassador in Naples (1764-1800), England has possessed major collections of painted vases. During the present century, either in conjunction with ancient marbles or separately, a number of well-known collections of vases have been conveyed to the auction rooms. Dietrich von Bothmer has added most of the sections on vases from British private collections in alphabetical sequence under the names of the cities or country houses in which these vases are or were located. He has also supplied several corrections to statements in Part One and information on the whereabouts of certain sculptures, particularly items which have migrated to American collections.

A short general survey of classical collections in British country houses appeared in *Archaeology* (1955) 10-17.[1] In the following pages, where only "Part I" followed by a page reference to *AJA* 59 appears in parentheses after the name of a collection, information regarding its location and ownership will be found on the page cited. Some cross-indexing is given because in instances in Part One pieces from a single collection were mentioned in several locations. The illustrations are grouped by subject and chronologically, rather than by collection as was done in Part One.

ALBURY PARK HOUSE (near Guildford, Surrey; Helen, Duchess of Northumberland, G.C.V.O., C.B.E. Open).

The only classical antiquity in the splendid collection of pictures, furniture, tapestries and other objects, including three small later Renaissance busts of Roman emperors, is in the Music Room. Among several Adam tables is a mosaic from Pompeii, made into a table top 60 by 30 inches. The

[1] It is impossible to thank adequately the many persons who have aided the preparation of these two reports. The greatest debt is, of course, to the owners and curators of the collections mentioned. In addition, thanks are due to Mr. Ashmole and his colleagues in the Department of Greek and Roman Antiquities of the British Museum, Mr. John Summerson and Miss D. Stroud of Sir John Soane's Museum, Professor Sir John Beazley, Professor A. D. Trendall of Canberra, Mr. W. Llewellyn Brown in Oxford, Professor F. Matz in Marburg, Drs. V. Poulsen and M. Gjødesen in Copenhagen, Dr. H. Jucker in Zurich, Mr. R. Forrer of Spink and Son Ltd., Mr. B. V. Bothmer, and Mr. R. D. Barnett of the British Museum, the last two having contributed information in the fields in which they are specialists.

design consists of foliate acanthus surrounded by a rectangular border within a spiralled fillet. The patterns are carried out in very small *tesserae*.

For other Northumberland antiquities, see Part I, Alnwick Castle and Syon House.

Althorp House (near Northampton, Northamptonshire; the Earl Spencer. Open).

On a visit in July 1955 four marbles were noted: 1. Head of an Infant Satyr. 2. Head from a Statuette of a Silen (cf. Schweitzer, *Antiken in ostpreussischem Privatbesitz*, pl. 20, no. 40). 3. Bust of a Boy, later first century A.D. The hair is arranged to form a double braid running from the top centre of the forehead back across the crown to the neck. 4. Replica of the Head of the Polyclitan Pan: E. Paribeni, *Sculture greche*, 38, list of sixteen replicas, including ten heads. To this may be added Brocklesby Park, Michaelis-Smith no. 98 *EA* 4861A, and Wilton House (pl. 104, fig. 1), Michaelis no. 180. The right horn, the back of the head including the satyr's ears, and the bust with *nebris* are restored.

All the busts in the Front Hall, which was being repaired in July 1955, are Neo-Classic works representing members of the family. There are a number of replicas of imperial busts and creations after the antique. Outstanding among these is a bust of the young Nero.

Castle Ashby (near Northampton, Northamptonshire; the Marquess of Northampton, D.S.O. Open).

Lord Northampton's collection of Greek and South Italian vases is arranged on shelves in the Gallery, provided with descriptive labels prepared by Sir John Beazley some thirty years ago. The vases were collected in Italy before the middle of the last century by the second Marquess. An account of most of the vases by Beazley appeared in *PBSR* 11 (1929) 1ff (cf. also *JHS* 53 [1933] 69f and the indices of Beazley *ABV* and *ARV*).

In addition to the vases (Michaelis, p. 211f, from descriptions by Conze and Furtwängler), there are also a few minor Egyptian antiquities, several South Italian terracottas, and a fine collection of Neo-Classic imperial busts. Lord Northampton could not recall the immediate whereabouts of the Etruscan mirror with a scene featuring Aphrodite and Adonis (Gerhard *ES* 1, pl. 112; 3, 110f; 5, 32, whence P. W. Lehmann, *Roman Wall Paintings from Boscoreale in the Metropolitan Museum of Art*, 81, note 214, fig. 49).

There are drawings of most of the antiquities in Castle Ashby in the German Institute at Rome.

Athelhampton Hall (near Puddletown, Dorset; Mrs. M. Phillips).

Although the house is well known as a historic site, the present owners have been there only since the war, and the diverse collection was brought to the house after it changed ownership. Two classical antiquities, one of some importance, were in the house in July 1955. The first is an archaistic marble relief (H.: 0.64 m.; W.: 1.25 m.) with a procession of five divinities walking from left to right on a heavy, fillet bottom moulding. Save for minor pittings and plaster restorations in the surface, the relief is in a good state of preservation and is framed in wood and plaster which appears to be early nineteenth century work. Mr. Denys Spittle of the Royal Commission on Historical Monuments photographed the relief (Photo no. 2349), but the owner has not replied to requests for permission to reproduce it here.

The relief, executed in coarse, crystalline marble, appears to be superior architectural-type decoration of the Augustan period. The divinities may be identified as (from right to left): Zeus (with thunderbolt), Hera (veiled), Athena (with helmet), Kore or Aphrodite (extending a flower), and Apollo (with a kithara). Some of these figures (Hera, Zeus, Apollo) correspond to those on a quadrangular base in the Villa Albani (Reinach, *Rép.Rel.* III, 129, no. 1). Zeus, Apollo, Athena, and Aphrodite resemble the corresponding figures on the Albani puteal now in the Museo Capitolino (Stuart Jones, *Cap.Cat.*, Gall.31, pl. 29). The drapery of all figures is characterized by sharp outlines against the background and mannered tapering at the ends of the folds.

The second ancient marble is a Maenad mask from the right front corner of a large sarcophagus (H.: 0.28 m.; W.: 0.27 m.). A printed catalogue excerpt on one edge states that this piece was removed from Port Lympne, seat of the late Sir Philip Sassoon.

Badminton House (Part I, p. 130, pl. 41, fig. 1).

The splendid Roman Bacchic and Season sarcophagus, which for over two hundred years graced the hall (which gave its name to the game of Badminton), was acquired in the spring of 1955 by the

Metropolitan Museum (55.11.5; Miss Alexander, *BMMA* 15 [1955-56] 15, 39-47; *ILN* [Nov. 19, 1955] 875).

Bagshot House (Bagshot, Surrey).

The porphyry ensemble which came to the collection of H.R.H., the late Duchess of Connaught, from Schloss Glienicke near Potsdam, to which it was brought from Italy early in the nineteenth century, is now in the British Museum (in the Basement: 1947.12-29.1,2). The head, which is somewhat too small for the body, is a replica of a type close to the Athena Rospigliosi, and the body is copied from a Hellenistic modification of the Hera Barberini. The front halves of the feet were made separately (as the pair of feet in the Museo Capitolino: Stuart Jones, *Cap.Cat.*, 134, nos. 60A). Delbrueck (*Antike Porphyrwerke*, 72ff, pls. 21-23) dates both head and torso in the Hadrianic period. Mr. Ashmole suggests the Minerva head and the Juno body might each be a part of one of the three figures from a Capitoline Triad group in porphyry.

Blenheim Palace (Part 1, p. 131).

Recent restudy of the five ancient marbles at Blenheim has revealed a number of important points about the two known pieces (Michaelis, nos. 1, 3) and an unpublished, exceptionally fine portrait of Hadrian (no. 4). The restored parts of the Bust of Alexander (pl. 111, fig. 16) comprise the tip of the nose, a section of the neck, and the right side and front of the bust including two-thirds of the Medusa head (cf. the photograph in Koepp, *BWPr* 52 [1892] 27f, pl. III). The portrait, therefore, must be a copy of a fourth century likeness of Alexander, since the rest of the Roman imperatorial bust save for the base is antique and belongs with the head. The Roman copyist has introduced a motive copied from the celebrated late fifth century dekadrachm of Akragas. The ancient, circular brooch on the left shoulder is carved with the scene of eagles tearing a hare on a rocky ledge (Head, *Historia Numorum*, 121f). The copyist, or perhaps the original portraitist, was mindful of the literary compliment to Alexander, master of the Persian Empire and successor to Philip of Macedonia and Greece, for he must have read his *Agamemnon*:

ὅπως Ἀχαιῶν δίθρονον κράτος, Ἑλλάδος ἥβας ξύμφρονα ταγάν,
πέμπει ξὺν δορὶ καὶ χερὶ πράκτορι θούριος ὄρνις Τευκρίδ' ἐπ' αἶαν, ...

(lines 109-120. Aeschylus goes on to develop the metaphor reproduced in the designs of the coin and the brooch).

The head and bust of the portrait of Hadrian (pl. 110, fig. 27) are ancient and in one piece. Restorations, excluding the inscription plate and pedestal, are limited to the end of the nose, parts of the ears, the brooch on the shoulder, and patches in the drapery. The portrait shows Hadrian in later life and is quite similar to the bust in Naples (Hekler, *Portraits*, pl. 247b). A photograph of the Bacchic sarcophagus in its present setting (pl. 107, fig. 14) reveals that the piece, the history of which may be traced back to the end of the Quattrocento, is the ruin of an outstanding sculpture of the later Severan period. Practically all the restorations have now fallen off or been removed. Nos. 5 and 6 in the collection are a heavily restored statue of the hunting Artemis and a *columbarium* statuette of a Roman lady in a long himation held closely round her neck.

Bristol (City Museum and Art Gallery. Open).

The galleries devoted to the small collection of Egyptian, Assyrian and Classical antiquities are on the right as one enters the front door. Amid Prehistoric and Romano-British objects, a number of Egyptian mummy cases, stelae, inscriptions and frescos, and casts of Egyptian sculptures and the Aegina pediments in Munich are the following noteworthy items:

1. Egyptian granite bust of Seti I, against a thick backing with hieroglyphs (H.: 0.79 m.; W.: 0.71 m.). The slab is broken (and restored in plaster) irregularly across the left side. From the ruins of the XIX Dynasty temple of Bubastis and presented by the Egyptian Exploration Fund Committee.
2. Three major Assyrian reliefs, showing the King and priests or divinities with the standard royal inscription, from the Palace of Ashur-Nasir-Pal (884-859 B.C.) at Nimroud. The reliefs were discovered by (Sir) A. H. Layard in 1845 and presented by Sir Henry Rawlinson to the Bristol Fine Arts Academy. The Museum and Art Gallery purchased them in 1905 (E. Weidner, *Die Reliefs der assyrischen Könige*, Part I [*AOF* 4 (1939) 111-125, 168, figs. 90-94]. This work contains most Assyrian reliefs in British and Italian collections). A fourth relief, of the period of Tiglath-pileser III (745-727 B.C.), showing an officer and a shield-bearer, was presented by the Earl Ducie of Tortworth Court (Glos.) in 1925.

3. Artemis seated, a relief fragment copied from the corresponding figure of the East Frieze of the Parthenon by George Bonanos (cf. the group of "copies" from this part of the Parthenon frieze made about the middle of the last century when it sat out on the Acropolis: Ashmole, *Festschrift Bernhard Schweitzer*, 177-180).

The small collection of vases is shown in a case in the center of the gallery. Most of them, if not all, are the bequest of Harding. The bf. hydria H 801 has been published by Clairmont (*Das Parisurteil in der antiken Kunst*, pl. 23): it once belonged to Samuel Rogers (cf. *AJA* 57 [1953] 139) and, before him, to Campanari (Sale 1838, no. 109). It was therefore probably found at Vulci. The bf. neck-amphora H 802 (here illustrated on pl. 113, figs. 36-37) likewise comes from the Rogers collection (*Cat. Christie 28 April 1856ff*, no. 395), as does the oinochoe by the Amasis Painter (H 803; Rogers no. 384; Beazley, *ABV*, 153, no. 44). Two other oinochoai (H 805 and 806) have been assigned by Beazley to the Class of Vatican G. 47 (*ABV*, 430, nos. 11 and 19). The lekythos H 807 with Theseus and the Minotaur may be ex Rogers 359; another lekythos, H 804, with the same subject, is attributed by Miss Haspels to the Group of the "Arming" Lekythoi (*Attic Black-figured Lekythoi*, 201, no. 15). B. Shefton has attributed the rf. hydria H 4631 to Hermonax (Beazley, *Paralipomena*, 1802, no. 64 bis).

Brocklesby Park (Part I, p. 131)

Many marbles in this extensive collection have been so frequently discussed in recent years that it is well to bring their nomenclatures and bibliographies up to date, according to the Michaelis numbering system followed by A. H. Smith (*Antiquities at Brocklesby Park*, 1897). No. 2 is an Athenian Greek portrait head of the Antonine period (Hekler, *AA*, 1938, col. 234). No. 5 is the Niobe (*EA* 4859), No. 7 another Greek of the late second century A.D. (Hekler, *loc.cit.*), No. 10 a fragment of an Athenian votive relief from the Acropolis area (Ashmole, *Antike Plastik*, 13ff, pl. 2), No. 11 a relief of the Three Graces or Charites in the orthodox scheme (Deonna, *RA* [1930] 282, no. 27), No. 13 a fragment of an Attic fourth century sepulchral relief (Reinach, *Rép.Rel.* II, 439, 5), No. 14 a Greek votive relief (idem, 439, 2; Lippold, *Handbuch der Archäologie* III, 1, p. 248, note 8), No. 15 a colossal fourth century head of Aphrodite (*EA* 4860), and No. 17 the well-known sepulchral relief of a young girl with two doves, now in the Metropolitan Museum (27.45; Richter, *Catalogue* [1954] 49f, no. 73).

The gaps in the numbering are accounted for by unimportant pieces, marbles condemned by F. Poulsen and others as too heavily restored or false, and Neo-Classic works. No. 18 is a head of Demosthenes (*EA* 3008-3010; E. Schmidt, *AA* [1935] cols. 377ff, fig. 6), No. 28 a votive relief to Herakles, found in Athens in 1785 (Löwy, *RM* 12 [1897] 61f, fig. 2; Bieber, *Hesperia* 14 [1945] 273, no. 4), No. 19 a Campana-type relief panel showing the purification of a terminal figure (*EA* 4861h), No. 31 an Athenian grave relief (Reinach, *Rép.Rel.* II, 440, 2), No. 33 a Scopasian Herakles term of the Lansdowne Herakles type (*EA* 4862), No. 34 the lower part of an Athenian sepulchral relief (Reinach, 439, 4), and No. 36 a questionable fresco of Scylla repelling Glaucus, said to come from Hadrian's Villa at Tivoli (Wirth, *RM* 44 [1929] 157f).

As can be seen, thanks to Sir Richard Worsley's residency in Venice and his journey through Greece (1785-1787), the collection is rich in marbles of Athenian and Greek island provenience, as opposed to the usual run of copies from the workshops of Roman restorers. No. 37 is a particularly attractive Greek fourth century figure of Europa or one of her companions (Picard, *Manuel* III, 1, 377ff; Ashmole, Text to BrBr, 74f, 4 figs., on the Weekes Torso, London, Burlington House, Part I, p. 138), No. 39 the left side of a votive relief (Reinach, 439, 1), No. 40 the top of a Greek stele with a Siren in relief (Collignon, *Statues funéraires*, 218, note 4), No. 42 a fragment of a Pheidian relief of a horseman (Reinach, 441, 2; Langlotz, *Phidiasprobleme*, 100, note 9), No. 43 a mosaic of an owl drawn in a biga of geese (cf. the Wilanów relief: *EA* 4256), and No. 45 a fragment of a funerary banquet relief from Athens (*EA* 4861d). No. 63, the statue of Asclepias, a priestess of Artemis Orthosia at Megara, has received an idealized head connected by a modern neck (F. Poulsen, *EA* Ser. XI, Introd.). Roman historical reliefs are represented by the panel from the Caraffa-Columbrano Palace in Naples and showing a bull decked for sacrifice, a section of a late Republican or Julio-Claudian *suovetaurilia* (No. 64; *EA* 4863).

No. 67 is the funerary vase of Moschos, from the Athenian Kerameikos (*EA* 4861g), No. 90 the statue group of Dionysos and Eros (also *EA* 4864; Lippold, *Handbuch*, 252, note 3), No. 98 the Polyclitan Pan (above, under Althorp, no. 4), No. 99 a fragment of a late Greek sepulchral relief, showing

a lady enveloped in her cloak (*EA* 4861f), No. 101 a low relief of Artemis and a stag which was found near the Stadium at Athens (*EA* 4861b, not before 320 B.C.), No. 106 a head of a late Julio-Claudian boy (*EA* 3011), No. 108 (*EA* 3012-3015) a *pasticcio* of a Greek fourth century type body and a late Republican-Augustan head, No. 110 an ex-voto to Pan and the Nymphs (from Athens; Reinach, 438, 4), and No. 111 is a votive relief from Megara (Reinach, 440, 5; Lippold, *Handbuch*, 248, note 8).

The inscription on an altar in memory of Octavia Catulla, wife of a freedman of Livia, reveals that the marble came from the mid-sixteenth century collection of Cardinal Carpi on Monte Cavallo (*CIL*, VI, no. 23338; Hülsen, *Römische Antikengärten*, 69, no. 117e). Finally, Michaelis catalogued (No. 113), but Smith omitted an Eros of the type unstringing the bow of Herakles. The figure has appeared in all later lists of replicas (e.g. Mustilli, *Museo Mussolini*, 83f, no. 4[11]; Johnson, *Lysippos*, no. 4). The proportion of Roman marbles among the Greek is explained not only by Worsley's residency and travels in Italy but also by the fact that the first Lord Yarborough collected a few antiquities, before the family inherited the bulk of the *Museum Worsleyanum*.

CAIRNESS HOUSE (Lonmay, Aberdeenshire; the Gordon Collection).

The late fifth century Greek stele of a warrior, which came from Megara and was long known only through the engraving in Stackelberg *Die Gräber der Hellenen* (pl. 3, 2, whence Reinach, *Rép. Rel.* III, 532, 1 ["probably in England"]), was republished as being at Cairness House by Beazley in 1929 (*JHS* 49 [1929] 1-6). Col. C. T. Gordon sold it at Sotheby's on July 28th, 1936 (lot 70, plate). It was bought by Joseph Brummer and shortly thereafter reached Worcester (Mass.) which it has ornamented ever since (cf. Taylor, *AJA* 41 [1937] 6, fig. 1; Worcester, *Art through Fifty Centuries* [1948] 14f, fig. 3; Möbius, *Jdl* 49 [1934] 52, fig. 4; Picard, *Manuel* II, 2, p. 846).

In "Greek Inscriptions at Cairness House" (*JHS* 54 [1934] 140-162) M. N. Tod published a decree of a Delian association (ca. 145 B.C.) and an agonistic inscription from Orchomenos (*IG* 7, no. 3197; early first century B.C.).

CHATSWORTH (Part 1, p. 132).

Michaelis (*Anc.Marbles*, 276f) never visited this collection, a summary of which was given in Part One (also *Archaeology* 8 [1955] 10ff, 2 figs.), but relied on Waagen's descriptions of three items (*Treas.* III, 365f). Michaelis No. 2, the group of two greyhounds, is Neo-Classic work of the studio of Canova (Reinach, *Rép.Stat.* II, 759, no. 4). The antique prototype is the group found by Gavin Hamilton in 1774 at Monte Cagnolo and now among the Townley Marbles in the British Museum (Smith, *Cat.* III, no. 2131; also esp. the pendant group, in the Vatican Sala degli Animali, 116). No. 3 made brief mention of "tasteful cinerary urns" in the Conservatory. Since three of the four are instructive illustrations of Roman decorative art, they are illustrated and discussed here (pl. 106, fig. 12).

From left to right, No. 20 (Chatsworth Inv. no. 56), the urn with inscription to FL.SOTER REPENTINUS, has a lid and base restored in the manner characteristic of the Piranesi urns in the Soane Museum (see below, WARWICK CASTLE). No. 21 (Inv. 55) is an excellent example of the combining of an alien ancient lid (with bust of a woman of the Trajanic period) and an ancient body, with an inscription in memory of a youth of twenty (*CIL*, VI, no. 37864b = 15281). The body is late first to early second century work, and the motive of griffins flanking the "vase of life" becomes quite common in Roman architectural and funerary enrichment from this time onwards (Strong, *Art in Anc.Rome* III, 114f; Lehmann and Olsen, *Dionysiac Sarcophagi*, 45f). No. 22 (Inv.54), from the Massimi collection (*CIL*, VI, 37864 = 14994), has received a new base, but the front of the lid and the body are antique and belong together. This Flavian urn originally contained the ashes of Claudius December, but the parents at a later date added the ashes and name of a younger son, Claudius Polydeuces. The urn not illustrated (No.19; Inv.45) is a later Julio-Claudian circular example in the West Corridor (*CIL*, VI, 38568).

The collection of antique cameo and intaglio gems mentioned by Michaelis under LONDON, Devonshire House (*Anc.Marbles*, 432) is now at Chatsworth, having been recently studied in the Department of Greek and Roman Antiquities of the British Museum. The choice stones were reproduced by Furtwängler in *Die antiken Gemmen*; much of the rest is Neo-Classic or Renaissance material, many of the pieces being outstanding examples of the glyptic carving of these periods.

The outstanding ancient masterpiece of the Devonshire collection, the bronze head of Apollo, has

also returned to Chatsworth House and is shown in the Library (*Archaeology* [1955] 14, fig.). It formed one of the showpieces of the 1946 Exhibition of Greek Art at Burlington House (Chittenden and Seltman, *Greek Art*, 38, no. 174, pls. 62-65). The Catalogue furnishes a brief summary of two decades of recent research on the technique, provenance, and style of the hollow-cast head, generally dated about 460 B.C. It is what survives of a cult-statue said to have come from a sanctuary of Apollo at Tamassos in Cyprus; the head was purchased by the sixth Duke from Mr. Borrell of Smyrna in 1838 or 1839 (Gjerstad, *Eranos* 43 [1945] 236-242; E. Boehringer, *RM* 59 [1944] 7-16; Wace, *JHS* 58 [1938] 90-95).

Chevening (Part I, p. 132).

The "Roman tombstones from Spain" have turned out to be the fourteen inscribed stones brought from Tarragona by the then Lord Stanhope in 1710. They are published by M. de Montoliu, "Historical crítico de unas lápidas," *Boletin Arqueológico* 49 (1949) 140-157 (*FastiA* 4, no.779; no.694).

Churt House (Rotherfield, Crowborough, Sussex; the Lord Nathan).

Mr. P. E. Corbett of the British Museum has kindly made available the typescript catalogue of (Greek and Roman) *Antiquities in the Collection of Lord Nathan*, prepared by himself and his colleagues in the Department of Greek and Roman Antiquities for the first Lord Nathan of Churt.

A short summary of the catalogue serves to show the wealth and diversity of the collection. Nos. 1-81 comprise Pottery of all sorts, including Egyptian. Nos. 82-91 are Lamps, and no. 92 is an Ampulla of St. Menas, of the usual type (cf. O. M. Dalton, British Museum, *Early Christian Antiquities*, nos. 864ff). Nos. 93-176 are Terracottas, no. 177 a glass head, and no. 178 a Romano-Egyptian wooden arm of a doll.

The Bronzes are nos. 179-203, Jewellery, nos. 204-209, and further Glass is catalogued under nos. 210-231. The Marble Sculptures form the balance of the collection (nos. 233-245). Outstanding among these are no. 233, a marble head of a woman, a Roman work of the second century A.D. after an unidentified Greek original of the fifth century B.C., and no. 234, a head of Zeus Ammon, reproducing an early version of the four well-known Ammon types. This head, 18 1/5" in height (with base), is a Roman copy of the second century A.D. after a Greek original of the mid-fifth century B.C. The nose is restored, and the back of the head was made in a separate piece, which was attached by a metal dowel.

A red-figured glaux by the Triptolemos Painter (*ARV*, 956) has been published by Beazley in *BSA* 46 (1951) pl. 6, c-d. It comes from the Hertz and Forman collections (nos. 597 and 385 in the respective catalogues).

Colne Park (Essex; The Botterell Family).

This collection possessed a fragment from the Parthenon frieze, the upper part of a horseman with the head of a horse of the group behind him, from Slab XXXVI of the North Frieze. The earlier bibliography of the piece and the reasons for its presence at Colne Park may be found through the 1904 Burlington Exhibition *Catalogue*, no. 18, pl. XVII (where it is erroneously cited as from the West Frieze).

The fragment was presented to the British Museum by J. J. Dumville Botterell, Esq., in 1919 (Inv.no.1919-7-1).

Cook Collection (Part I, p. 133f).

Further information on the marbles from Doughty House, Richmond, Surrey, is now available; the numbering again follows Mrs. Strong's catalogue (*JHS* 28 [1908] 1ff). No. 16, the crouching Aphrodite, was described in Part One as the property of Bert Crowther, Syon Lodge, Isleworth (see the illustration, *Archaeology* [1955] 13). It has now been stripped of everything, perhaps over-zealously, listed as restorations by Michaelis (p. 631f; also the head of Eros) and has passed to the J. Paul Getty Museum, Malibu, California. No. 53, a draped male torso of Zeus or possibly a figure from a votive statue, is now the property of Mr. K. J. Hewett, London (on whose collection, see below). The restorations have been removed, but the feet probably came from another Roman garden-type statue, perhaps of Sylvanus. No. 58, a small group of Hermes and a nymph (Libertini, *Il Museo Biscari* 26, under no. 46), has recently passed to the J. Paul Getty Museum, Malibu, California. Finally, the sepulchral relief of Straton (No. 67, pl. 23, not 24 as cited in the text), with three wreaths and an early first century B.C. inscription below, has been presented to the Department of Archaeology, University College, London. It came from Kephalos

(Paton and Hicks, *Inscriptions of Cos*, 297, no. 417).

At least four and probably all six of the Cinquecento busts mentioned by Michaelis and Mrs. Strong are now in the garden of Bert Crowther, Ltd., Syon Lodge, Isleworth. Outstanding in this set of Caesars are Nero, Galba, Vitellius, and the bust probably to be identified as the Claudius of Bernoulli.

DALKEITH PALACE (Dalkeith, Midlothian, Scotland; the Duke of Buccleuch and Queensberry).

Michaelis (278f) made brief mention of this collection in connection with a female draped statue of Parian marble, said to have been found in England.

On the 24th and 25th of June 1946, with a catalogue marked by its inadequate descriptions, Robinson and Foster sold the remaining contents of the Buccleuch residence at 2, Grosvenor Place, London, S.W.1. Lot 483, "A 20 inch bronze female bust" is the handsome late Hellenistic bronze head from a statue of Dionysos, Eros, or the young Apollo, acquired for the British Museum and now exhibited in the Edward VII Gallery (Haynes, *BMQ* 15 [1952] 66-69, 2 pls.). It is from a statue in the style of Pasiteles ca. 50 B.C., hence the difficulty of naming the youthful, rather effeminate features. Haynes discusses the complex ownership of the piece before it was seen by Dallaway in the Duke of Buccleuch's home, Privy Gardens, Westminster, at the beginning of the last century (*Anecdotes*, 338, no. 9). Lot 484a, "A 12 inch circular plaque with figures in relief" turned out to be a bronze group of two warriors in Greek armor on the crowning feature of an Etruscan candelabrum of ca. 510-480 B.C. One warrior is wounded and is being supported by the other. The group is now in the Metropolitan Museum, New York (47.11.3; Gori, *Museum Etruscum* I, Florence 1737, pl. 115; Richter, *Annuario* 24-26 [1946-48] 79-83).

The last antiquity of note in the Grosvenor Place collection was purchased for the British Museum after the sale (Inv.1946.10-17.1). It is a bronze, wheeled basket stand (H.: 0.30 m.) of the late Bronze Age (ca. 1100-1000 B.C.), with four reliefs showing Egyptian, Hittite and other Near Eastern influences. Judging from known parallels, it comes from Cyprus and was probably acquired by the then Duke in the middle of the last century (E. F. Prins de Jong, *Bulletin van de Vereeniging tot Bevordering der Kennis van de Antieke Beschaving* 24-26 [1949-51] 2-6; *FastiA* 6 [1951] no. 1633, fig. 31).

DEEPDENE (Part I, pp. 134-135).

Tillyard's catalogue, *The Hope Vases*, was begun in 1912, but not published until 1923, six years after the sale of the collection at Christie's on July 23, 1917. He described most of the vases and illustrated almost two-thirds of them. His careful notes and copious illustrations make this one of the best catalogues of vases ever published. Though Tillyard was not present at the sale, he had the foresight to ascertain, wherever possible, the location of the vases at the time of his writing.

The following notes correct some of Tillyard's locations, fill in others, and give new locations for the vases which have changed hands since 1923. No attempt is made to bring the bibliography up to date. Most of the Attic vases are in Beazley *ABV* and *ARV*; the Paestan vases are listed by Trendall in *PBSR* 20 (1952) and in his forthcoming book on Campanian he will give the Campanian vases. Some of the Hope vases now in Los Angeles are published by Clement in *Hesperia* 24 (1955) 1-24. The numbering in the following list is Tillyard's.

No. 2: *Cat. Anderson Gall., 26-29 January 1921*, no. 475; no. 3: *Cat. Puttick & Simpson, 5 April 1935*, no. 84. Now San Simeon, Hearst; no. 5; *Cat. Anderson Gall.*, 26-29 January 1921, no. 474; *Cat. Am. Art Gall.*, 20-21 January 1928, no. 332 A; no. 6: Eton College Museum; no. 7: *Cat. Sotheby, 12-13 April 1948*, no. 133. Now Maplewood (N.J.), Joseph V. Noble, and illustrated here pl. 112, figs. 32-33; no. 8: *Cat. Sotheby, 5 April 1933*, no. 45; no. 10: *Cat. Sotheby, 12-13 April 1948*, no. 132; no. 11: *Cat. Sotheby, 5 April 1933*, no. 46.

No. 13: *Cat. Sotheby, 2 December 1946*, no. 48. Now New York 47.11.5; no. 17: Port Sunlight; no. 19: *Cat. Puttick & Simpson, 5 April 1935*, no. 62; nos. 20, 32, 36, 51, 65, 134, 175, 176, 184, 185 were given by Miss Lamb to the Fitzwilliam Museum in 1955; no. 27: *Cat. Am. Art Gall.*, 6-7 March 1936, no. 33; *Cat. Sotheby, 24 February 1943*, no. 148. Now lent by T. B. L. Webster to the Manchester Museum (*Manchester Mem.* 87 [1946-1947], pl. 3, c-d); no. 30: Rawtenstall; no. 31: *Cat. Puttick & Simpson, 5 April 1935*, no. 4. Now San Simeon, Hearst; no. 34: *Cat. Puttick & Simpson, 5 April 1935*, no. 28; nos. 41-45: Port Sunlight; nos. 46, 47, 50: *Cat. Sotheby, 2 December 1946*, nos. 46, 3, 2, 4; no. 52: bought in 1917 by F. Partridge and hence,

presumably, either in Port Sunlight or in Rawtenstall; no. 54: Port Sunlight; nos. 55-64: *Cat. Sotheby, 2 December 1946*, nos. 43, 2-4; 44, 2-3; 56, 2-3; no. 71: *Cat. Puttick & Simpson, 5 April 1935*, no. 115. Now San Simeon, Hearst; no. 72: *Cat. Sotheby, 2 December 1946*, no. 44,1. Now Sydney 47.03; no. 73: *Cat. Sotheby, 2 December 1946*, no. 42; no. 74: Port Sunlight; nos. 77-78: *Cat. Puttick & Simpson, 5 April 1935*, no. 34. Now San Simeon, Hearst; nos. 81-83: Port Sunlight, like most of the Port Sunlight vases, at present on loan in Liverpool.

Nos. 84 and 86: *Cat. Sotheby, 14 May 1946*, nos. 43-44. Now Los Angeles A 5933.50-27 and 29; no. 87: Philadelphia 30.44.4; no. 92: *Cat. Sotheby, 14 May 1946*, no. 30. Now Los Angeles A 5933.50-33; no. 94: *Cat. Sotheby, 14 May 1946*, no. 32 (bought by Spink); nos. 103 and 105: Budapest; no. 107: *Cat. Sotheby, 2 December 1946*, no. 51. Now Los Angeles A 5933.50-16; no. 111: *Cat. Sotheby, 2 December 1946*, no. 52, 1; *Cat. Sotheby, 14 February 1955*, no. 95. Now Oxford (Miss.), D. M. Robinson (*AJA* 60 [1956] pl. 16, fig. 73); no. 113: *Cat. Sotheby, 27-28 May 1929*, no. 44, 1; *Cat. Sotheby, 14 May 1946*, no. 40. Now Los Angeles A 5933.50-14; no. 114: *Cat. Sotheby, 2 December 1946*, no. 52, 2; no. 120: St. Louis 2.29; no. 125: *Cat. Sotheby, 14 May 1946*, no. 33. Now Los Angeles A 5933.50-12; no. 127: New York 41.162.86; no. 129: Paris market (Mikas); no. 130: *Cat. Sotheby, 2 December 1946*, no. 53. Now Los Angeles A 5933.50-37; no. 132: *Cat. Sotheby, 20 December 1938*, no. 166; no. 139: *Cat. Puttick & Simpson, 5 April 1935*, no. 69. Now San Simeon, Hearst; no. 141: *Cat. Sotheby, 2 December 1946*, no. 55; no. 146: Cambridge 43.8; no. 148: Liverpool; nos. 152-154: *Cat. Sotheby, 2 December 1946*, nos. 57, 54, 62. Now Los Angeles A 5933.50-40, 43, 45; no. 164: *Cat. Sotheby, 14 May 1946*, no. 49. Now Los Angeles A 5933.50-44; no. 167: bought in 1917 by Hughes; no. 168: London 1950.4-26.1; no. 169: San Simeon, Hearst; no. 173: *Cat. Sotheby, 14 May 1946*, no. 50. Now Oxford 1946.52; nos. 180-181: *Cat. Sotheby, 14 May 1946*, nos. 46-47. Now Los Angeles A 5933.50-39 and 38; no. 186: *Cat. Anderson Gall., 30-31 March 1928*, no. 322. Now Newark 28.204; no. 191: *Cat. Puttick & Simpson, 5 April 1935*, no. 52.

No. 203: probably not Duke of Newcastle, perhaps Eton; no. 204: Amsterdam inv. 3404 (*JHS* 63 [1943] p. 68, no. 15); no. 210: *Cat. Sotheby, 2 December 1946*, no. 60. Now Sydney 47.05; no. 211: *Cat. Sotheby, 14 May 1946*, no. 60. Now Los Angeles A 5933.50-35; no. 220: London, Victoria & Albert Museum 1776-1919; no. 222: *Cat. Sotheby, 2 December 1946*, no. 58. Now Los Angeles A 5933.50-42; nos. 231 and 242: *Cat. Christie, 8 June 1937*, no. 137 (bought by Garabed); no. 247: *ibid.* no. 140, 2 (bought by Garabed); no. 248: *ibid.* no. 138, 1 (bought by d'Erlanger); no. 254: *Cat. Sotheby, 14 May 1946*, no. 61. Now Oxford 1946.53; no. 259: Port Sunlight; no. 260: *Cat. Christie, 8 June 1937*, no. 138, 3 (bought by d'Erlanger); no. 261: *ibid.* no. 136, 2. Now York; no. 263: *ibid.* no. 139, 1 (bought by Fenouil); nos. 268-269: *Cat. Sotheby, 12-13 April 1948*, nos. 140-141. Now Sydney 48.05 and .06; no. 270: Sydney W 5; no. 271: *Cat. Sotheby, 2 December 1946*, no. 63. Now Los Angeles A 5933.50-46; no. 272: *ibid.* no. 65. Now Sydney 47.04; no. 273: *ibid.* no. 64. Now Los Angeles A 5933.50-36; no. 274: *Cat. Sotheby, 14 March 1929*, no. 85; Now Dunedin E 48.261; no. 275: Oxford 1928.12; no. 276: *Cat. Sotheby, 14 March 1929*, no. 86; *Cat. Sotheby, 4 July 1932*, no. 190; no. 278: *Cat. Sotheby, 12-13 April 1948*, no. 142. Now Sydney 48.04; no. 279: *Cat. Sotheby, 14 March 1929*, no. 84; *Cat. Sotheby, 4 July 1932*, no. 189; no. 280: Dundee; no. 281: *Cat. Christie, 8 June 1937*, no. 138, 3 (bought by d'Erlanger); no. 283: *Cat. Sotheby, 2 December 1946*, no. 66. Now Los Angeles A 5933.50-22; no. 284: *Cat. Christie, 8 June 1937*, no. 141, 3 (bought by Garabed); no. 287: *Cat. Sotheby, 2 December 1946*, no. 61. Now Los Angeles A 5933.50-32; no. 288: *Cat. Christie, 8 June 1937*, no. 140, 3 (bought by Garabed; in 1953 in the Paris market [Koutoulakis]); no. 290: *ibid.* no. 141, 4 (bought by Garabed); no. 300: *ibid.* no. 139, 2 (bought by Fenouil); no. 304: bought by Buckley in 1917; no. 312: Cambridge 43.6; no. 313: *Cat. Christie, 8 June 1937*, no. 136, 1. Now York; no. 314: Cambridge, Museum of Classical Archaeology; no. 316: *Cat. Christie, 8 June 1937*, no. 140, 1 (bought by Garabed; in 1953 in the Paris market [Koutoulakis]); no. 318: *Cat. Anderson Gall., 19-21 November 1925*, no. 205; *Cat. Am. Art Gall., 20-21 January 1928*, no. 333 C; no. 319: *Cat. Christie, 8 June 1937*, no. 139, 3 (bought by Fenouil); nos. 321-322: Dublin, National Museum 51.1917 and 50.1917; no. 326: *Cat. Sotheby, 14 March 1929*, no. 87; *Cat. Sotheby, 4 July 1932*, no. 191. Now London 1949.9-26.2; no. 327: *Cat. Anderson Gall., 19-21 November 1925*, no. 206; no. 328: *Cat. Sotheby, 14 March 1929*, no. 88; *Cat. Sotheby, 4 July 1932*, no. 192; *Cat. Sotheby,*

10 April 1934, no. 110; *Cat. Sotheby, 12-13 April 1948*, no. 136; no. 329: London 1927.4-11.8; no. 330: *Cat. Sotheby, 2 December 1946*, no. 59. Now Los Angeles A 5933.50-17; no. 336: Oxford; nos. 338-340: bought in 1917 by Amor; no. 346: *Cat. Sotheby, 14 March 1929*, no. 60, 1; no. 348: Oxford, Sir John Beazley; no. 349: Oxford, Miss Lucy Buckler; nos. 352, 353, 355: *Cat. Sotheby, 14 March 1929*, nos. 59, 1; 58, 1; 60, 2.

Tillyard catalogued 354 vases (there is a gap in his numbering between nos. 196 and 200) whereas 407 vases were sold in 1917. The difference is mainly accounted for by a good many of the black and all the plastic vases which Tillyard omitted. The following account of the plastic vases is in the order of the 1917 sale, with its lot numbers. No. 41, 1: probably New York 41.162.43 (*CVA* Gallatin, pl. 63, 8); no. 41, 2: probably New York 41.162.191 (*CVA* Gallatin, pl. 64, 3); no. 41, 3: bull's head rhyton; no. 49, 1: Providence 22.213 (Beazley, *ARV*, 899, no. 1); no. 49, 2: oinochoe in the form of a female head (bought by Carfax for E. P. Warren); no. 50, 1: Oxford 1946.85 (Beazley, *ARV*, 905, foot); no. 50, 2-3: Oxford 1929.1 and 2 (Beazley, *ARV*, 901, nos. 15-16); no. 154: "satyr's head . . . , ram and cows' heads" (bought by Crockenden); no. 155: "two dog's heads, boar, griffin, and cow; also an askos, in the form of a female head with winged stephane (broken); and a duck-shaped askos" (bought by Agnew, who was Cowdray's agent at the sale. Two dog-head rhytons appear in the Cowdray sale, *Cat. Sotheby, 2 December 1946*, nos. 53, 1 and 50, 1; the griffin-head rhyton *ibid.* no. 56, 1). The question arises whether no. 155, 6 is not the South Italian plastic lekythos illustrated by Tischbein (Vol. 3, pl. A) and identical with one now in the collection of El Conde de Lagunillas at Havana (the wings are now broken off). The duck-shaped askos (no. 155, 7) is Tischbein Vol. 3, pl. D. At the Earl of Lincoln's sale at Christie's (8 June 1937) three plastic vases were sold which may be ex Hope: lot 142 included two ram's head rhytons and a bull's head rhyton; the three vases were bought by Spink. The Apulian head kantharos in the form of Io (*AZ* [1851] pl. 32) should be the one described in the 1917 sale (no. 154, 1) as a satyr's head: it was later in the Brooks Collection (*Cat. Sotheby, 14 May 1946*, no. 63) and is now in Los Angeles (A 5933.50-31): the compiler of the catalogue understandably mistook the horns for those of a Pan and then proceeded to confuse Pan and satyr.

Lastly, it will be of interest to recount how the neck-amphora in New York by Exekias (Tillyard no. 15) came to be completed. The sale catalogue quite accurately described it as having a cover, but Tillyard did not mention it, and when the vase arrived in New York in 1919, the lid was accessioned separately as not belonging. In 1926, however, Beazley wrote that after the Hope sale he had purchased "a box of rubbish" which included the knob of a lid. He thought that this knob should belong to the lid of the neck-amphora by Exekias and offered it to the Metropolitan Museum as a gift. The knob did indeed fit, and on reexamination the lid was seen to belong to the vase.

One final point perhaps needs clearing up. It has often been asserted that a part of the Hope collection was sold in 1849, but the account in *AA* (1849) 97 does not give the full name of Mr. Hope. The sale seems to have been that of William Williams Hope, of Rushton Hall in Northamptonshire, held at Christie's from June 14th to June 16th, 1849, and it may be safe to assume that this collection, formed for the most part in Paris with purchases at the Durand, Magnoncourt, and Beugnot sales, has nothing to do with the vases collected by Thomas Hope.

Hagley Hall (near Stourbridge, Worcestershire; the Viscount Cobham. Open).

Hagley Park is of course celebrated in the annals of Neo-Classic architecture for the Temple of Theseus, designed by "Athenian" Stuart. Although the Hall was badly damaged by fire in 1925, it has been perfectly restored and contains four ancient marbles. No. 1, head of the Doryphoros of Polykleitos. The top of the head from just above the hair, the nose, and the bust are restored (Doryphoros bibl., E. Paribeni, *Sculture greche*, under nos. 50-52). The list of Doryphoros replicas may be increased by at least two other examples in British private collections: London, Soane Museum, *Cat.*, no. 363, a small torso; Petworth, Michaelis-Wyndham, no. 14, a torso restored as Dionysos (Part I, p. 145). The most complete Doryphoros head in British private collections is the example at Chatsworth (no. 2 [Inv.no.28]; Anti, *MonAnt* 26 [1920] 631, no. 31).

No. 2 (pendant to the previous, in the Long Gallery) is a head of the Meleager type attributed to Skopas or Lysippos and has only the tip of the

nose, a patch over the left eyebrow, and a patch on the left cheek restored. It is closest to the herm bust formerly at DEEPDENE, no. 16 (Part I, p. 134; Picard, *Manuel* III, 722, fig. 320). No. 3 (in the White Hall) is a head of a man of ca. A.D. 120, and its pendant (No. 4) is an even finer portrait of a bearded man of the period of Septimius Severus.

HEWELL GRANGE (Redditch, Worcestershire; the Earl of Plymouth).

In the Sotheby Sale, 29 July 1946, Lot 162, Plate V, was a limestone Assyrian relief from Nimrud which had been recently removed from Hewell Grange. It shows the King Tiglath-pileser III (745-727 B.C.) with an attendant, a captive prone before him, and three standing figures beyond. Originally illustrated by the Hon. R. Clive, who acquired it from Christian Rassam, Vice Consul at Mosul, in 1850 (*Sketches between the Persian Gulf and The Black Sea, 1852*), it is now in the Institute of Arts, Detroit (F. W. Robinson, Museum *Bulletin* 29 [1949-50] 86-89). This relief was not included in Weidner's Corpus (*Die Reliefs der assyrischen Könige*), which is otherwise an excellent guide to such reliefs in smaller museums and private collections in England. At least one of these reliefs (Torquay, Natural History Society: 143ff, fig. 108) has passed through Spink and Son, and information about other Assyrian reliefs from public and private collections is being collected by Mr. R. D. Barnett.

Three Attic black-figured neck-amphorae are now in Los Angeles (A5141.50-793, 794, and 797).

KINGSTON LACY (Part I, p. 137).

A visit to Kingston Lacy in July 1955 has produced a number of important discoveries concerning pieces in the collection and photographs of those marbles known heretofore only from engravings or totally unpublished. The collection contains, besides many treasures of painting of all schools, a number of important Egyptian antiquities. These, collected by William John Bankes (died 1855), a friend and contemporary of Byron, include wall paintings, papyri, about twenty stelai, a New Kingdom granite sarcophagus, a statue of Rameses II, and an obelisk originally set up on the Island of Philae by the priests of Isis in the reign of Ptolemy Euergetes II (170-116 B.C.) and bearing a Greek and hieroglyph inscription. This obelisk was restored with red granite from the Lepcis *cache* at Virginia Water (Part I, p. 148), presented for the purpose by George IV. The foundation stone for its present installation was laid by the Duke of Wellington in 1827 (V. Bankes, *A Dorset Heritage, The Story of Kingston Lacy*, 1953, 142ff, 160f, 169).

Of the Greek and Roman marbles, No. 1 is to be identified as a portrait of Arsinoe II in crystalline island marble and shows the Queen if not posthumously certainly in divine guise with the large crescent diadem of Artemis or more likely Aphrodite (pl. 108, fig. 17). The tip of the nose has been restored in plaster, with too much of a point. The identification is based on posthumous coin portraits, 270-269 B.C. (e.g. Charbonneaux, *MonPiot* 47 [1953] 119; cf. also the head in Alexandria, whence comes the Kingston Lacy bust: 120, fig. 3). Although the problem of early Ptolemaic queenly iconography is complicated by the resemblance to each other of Arsinoe II, Berenice, and Arsinoe III (as seen in their coin portraits) and the generalization of their features in sculpture, the Kingston Lacy bust admirably transcribes those features which Mrs. Thompson has analyzed in the early posthumous portraits of Arsinoe II (*AJA* 59 [1955] 199-206). (For the Berenice likewise from Egypt and the Consul Baldwin collection, see below, LONDON, W. R. Hamilton.)

No. 2, found near Canopus in Egypt, ca. 1780, is a green basalt head of a man of ca. 30 B.C. (pl. 108, figs. 18, 19). The total height is 0.42 m.; the ears (but *not* the nose) are damaged, and the base of the bust has been patched with plaster, to enable it to stand more firmly. The manner of arranging the hair, the proportions of the face and neck, and the treatment of surface details belong to the Plastic-Idealizing Style of Schweitzer (*Bildniskunst*, figs. 152-155, the Caesar of Castello di Agliè; cf. also the Caesar, Museo Chiaramonti 107: *RM* 47 [1932] pls. 49ff, which has a thinner face). The portrait does not, however, appear to represent Caesar, but rather someone who sought portrayal in the Caesar tradition. The slant of the underside of the nose and the inward slope of the upper lip are characteristics of M. Antony, preserved in all his coin portraits, no matter how widely they vary among themselves. On the basis of Vessberg's Coin Types III, 6-8 (*Studien zur Kunstgeschichte*, pl. 8) this head can be identified as an idealized portrait of Antony, a suggestion made by Mr. Ashmole. The form of the bust, designed to stand in a niche or pillar, is securely dated in the Augustan period

(cf. the aureus of Augustus: *BMCCRE* I, pl. 16, no. 7; also the Agora "Augustus": Hafner, *Spät-hellenistische Bildnisplastik*, 83, no. A41, pl. 38; Harrison, *Agora* I, 17ff, pls. 5f) and appears to enter Rome on late Republican grave reliefs (e.g. Vessberg, *op.cit.*, pl. XXXVIII, 3). The form could be pre-Actium in Egypt.

Using the particular quicksands of coin comparison, L. Curtius (*RM* 54 [1939] 112ff, pl. 25) made valiant attempts to identify Antony in two marble portraits. The Berlin head is certainly a Julio-Claudian, and that from Pompeii lacks the shape of nose and upper lip seen in the coins and the Kingston Lacy bust, in spite of the latter's ideal overtones.[2] B. V. Bothmer (*AJA* 58 [1954] 143f) has already pointed out the importance of these late Egyptian basalt heads in Augustan and later Roman portraiture. From the Kingston Lacy bust of secure Egyptian provenience we may proceed to the basalt Germanicus (?) from Egypt (British Museum no. 1883: Curtius, *MdI* 1 [1948] 85, pl. 32), the Louvre Octavia Minor (Arias, *RM* 54 [1939] 76ff, pl. 18), the Newby Hall head (Part I, pl. 44, fig. 22), and the bust in the Metropolitan Museum (Richter, *Cat.*, 1954, 98f, no. 189; cf. also Charbonneaux, *AJA* 59 [1955] 254, top). The last two come from Rome.

Kingston Lacy No. 3 is a somewhat restored heroic head of Augustus, in Greek island marble. No. 4 is a Neo-Classic replica of the Uffizi Agrippa (West, *Römische Porträt-Plastik* I, pl. XXI, no. 131). Both these look as if they derived from Rome. No. 5 is the upper left part of an Athenian-type documentary relief. The fragment in what appears to be crystalline grayish marble (H.: 0.34 m.; W.: 0.21 m.; Th. [max.]: 0.09 m.) shows Athena of the Parthenos type as seen on Attic new-style tetradrachms clasping the hand of a male figure, most of whom is missing (pl. 104, fig. 3). A number of similar reliefs, dated from 405 B.C. and later, are in the Athens museums (H. Speier, *RM* 47 [1932] pls. 12ff; Svoronos, *Das Athener Nationalmuseum*, pl. CCX; and Walter, *Beschr. der Reliefs im kleinen Akropolismuseum*, 1, no. 1).

[2] The head in the Museo Civico, Bologna, and especially the head of the limestone statue of a "ruler" as Zeus *aigiochos* from Atfih (Aphroditopolis) and now in Cairo (*JHS* 33 [1913] 50ff, pl. 2) suit the Republican aurei portraits much better than Curtius' candidates, but neither are conceived in the level of sensitive but precise later Hellenistic modelling of the Kingston Lacy head (G. Kaschnitz-Weinberg, *Marcus Antonius/Domitian/Christus, Schriften der Königsberger Gelehrten Gesell.*, 14 *Geisteswiss. Klasse*, 2, 1938, 75ff, pls. 2ff). J. Charbonneaux (*Musée de France*, 1950, 3, 68ff) identifies Antony in a portrait in Narbonne (but see also Picard, *REL* 28 [1950] 303).

KNOLE (Part I, p. 138)

More study of the marbles in the ancient seat of the Dukes of Dorset has produced the following results. No. 5, the crystalline island marble statue of Eros asleep upon the attributes of Herakles, is a particularly charming copy of a later Hellenistic work. The feet, outer part of the right wing, and part of the left have been restored (pl. 106, fig. 9). The closest antique parallel is the statue in the Museo Nuovo Capitolino (Mustilli, *Museo Mussolini*, 167, pl. CXI, no. 424, 18; also 169, under no. 24) or that, from Rome, in the Townley Collection (Smith, Brit.Mus. *Cat.* III, no. 1677). The type was copied in the Renaissance in the Sleeping Cupid of the Accademia delle Scienze in Turin, which is probably the one in Charles I's collection (Windsor drawings, Whitehall album, no. 8914b and may therefore be the "lost" Cupid of Michelangelo.

Three of the following four heads were found in 1769 by Gavin Hamilton at Villa Adriana; since the fourth is a Hadrianic variant of a fifth or fourth century Greek work and is restored in a manner identical with the other three, we may presume it also came from Tivoli via Hamilton and Jenkins. No. 6, with nose and bust restored, is a particularly fine portrait of Antinous (pl. 111, fig. 28). It is a replica of the Antinous as Hermes (Farnese) in Naples (Hahland, *JOAI* 41 [1954] 67ff, fig. 44; cf. esp. Hekler, *Portraits*, 250-253). One can imagine Hadrian ordering two such masterpieces, one for his Villa and one for the Palatine palaces. No. 7, the Zeus-type head mentioned above,[3] has been damaged only by exposure to the Kentish climate (pl. 104, fig. 2). It is a Hadrianic variant of the Cyrene Zeus (F. Matz, *JdI* 46 [1931] 30, fig. 21; Curtius, *Zeus und Hermes*, 15ff). The hair is freer than the Cyrene or the Sarti collection examples (Curtius, fig. 7), being more deeply cut and arranged in Serapis-like locks over the forehead. The hair at the sides and the beard bear a closer relationship to the ultimate prototype—the Dresden Zeus (Curtius, fig. 10).

No. 11 (pl. 109, figs. 20, 21) and No. 12 (pl. 109, figs. 22, 23) are quite evidently pendant Hadrianic

[3] It may be the Jupiter of Hamilton's letter to Townley describing his finds in the Pantanello cava; "To Mr. Jenkins, the Jupiter . . . and others which have escaped my memory" (A. H. Smith, *JHS* 21 [1901] 311, 321). He speaks of the Antinous and Pompey (No. 12, below) having passed through the same channels to the Duke of Dorset.

copies of portraits of statesmen or *literati* of the late Republican to Augustan periods. Both have noses, parts of the ears, all below the necks, and other minor patches restored in Roman (Luna) as opposed to the original Greek mainland marble. Both are set in the Courtyard and have become streaked with dirt, a fact which gives a misleading impression of the colour of the marble in the photographs. No. 11 copies an original close to that of the Naples Caesar (R. Paribeni, *Il ritratto nell'arte antica*, pl. CVI) or again the Caesar, Museo Chiaramonti 107 (*RM* 47 [1932] pls. 49ff). No. 12 suggests another head in Naples (Paribeni, pl. CXXIII; the hair is arranged like that of the Conservatori statue of Caesar (West, *Römische Porträt-Plastik* I, pl. XXII, no. 88; *RM* 47 [1932] pls. 56f), and the profile suits his less exaggerated portraits.

LONDON, Apsley House (The Wellington Museum. Open).

Michaelis (*Anc.Marbles*, p. 429f) described five ancient busts, three modern examples of the same, and a statue. In 1947 the Duke of Wellington presented Apsley House and most of its contents to the National Collection, and the Wellington Museum was opened in 1952. Only one bust, Michaelis No. 1, the Mattei Cicero, remains in the house; the remaining items described by Michaelis have been removed to the Duke of Wellington's country seat, STRATFIELD SAYE, near Reading.

The Mattei Cicero, although heavily restored and a copy of the Hadrianic period, has achieved considerable celebrity because it is the only ancient likeness of Cicero which appears to possess an (ancient) inscription naming the portrait as the writer and statesman. It has been recently rephotographed by the Victoria and Albert Museum, the organization entrusted with the administration of Apsley House (Photos G 1229-1231; further bibliography includes: Schefold, *Bildnisse*, 174f; Schweitzer, *Bildniskunst*, 91, 93-99, etc.; Wegner, *Herrscherbildnisse*, 287f; Hekler, *Portraits*, pl. 159; *EA* nos. 3038-3041).

Like the Cicero, the other classical items which are now at STRATFIELD SAYE were bought by the First Duke of Wellington at the Cardinal Fesch Sale, in Paris, 17 June 1816ff (information kindly furnished by Mr. Francis Needham, the present Librarian. The lot numbers of the sale are put in parentheses.) Michaelis no. 2 (460) is a head of Athena restored as a bust. No. 3 (237), bust of Hadrian's brother-in-law L. Julius Ursus Servianus, was also a Mattei piece (*EA* 3042-3044; Wegner, *Herrscherbildnisse*, 287; F. Poulsen, *Römische Kulturbilder*, 95f), as was No. 4 (234), head of Marcus Aurelius (*EA* 3045; Wegner, 179). No. 5 (236) is the head of Lucius Verus (*EA* 3046; Wegner, 232). No. 6 (235) is the Seicento bust of Mars, and No. 8 (239) is the Neo-Classic copy of the BLENHEIM Alexander the Great (see above). No. 9 (224) is a statue of Eros of a type well known as a fountain figure or from adaptations as a fisherboy and kindred genre figures (note under Reinach, *Rép.-Stat.* III, 264, 1).

In addition to the Apsley House marbles there is an ancient portrait known as "Demosthenes" at STRATFIELD SAYE, of unknown provenience. Its bust is ancient. The drilling of the pupils and the depth of the bust date this portrait (illustrated here on pl. 108, fig. 15 bis) in Greek island marble to the Antonine period. It is a free, expressive transformation of the Capitoline head of Lysias (Schefold, *Bildnisse* 70f; Hekler, *Portraits*, p. xii, pl. 25); the hair is more carefully modernized than that of the Naples bust (Hekler, pl. 26). Since the Stratfield Saye bust lacks a himation about the shoulders and dwells on the sunken, fleshy chest of the subject, it may well copy a Hellenistic variant of the Capitoline prototype. Other unpublished portraits at STRATFIELD SAYE will be treated in detail at a future date (Alexander the Great, a late Republican Roman, and two superlative porphyry busts of late second century empresses, perhaps Faustina II and Julia Domna).

LONDON, the British Museum (Gt. Russell St., W.C.1).

Michaelis, of course, made no attempt to deal with the vast and now well-catalogued material in the Department of Greek and Roman Antiquities other than in connection with his introductory essays. In these notes objects which have since found their way to the Museum from collections described by Michaelis and others are listed under the collections in which they were originally described (e.g. BAGSHOT HOUSE, Cook Collection, DALKEITH PALACE, HILLINGDON COURT, LONDON-Franks, LOWTHER CASTLE, OSBORNE HOUSE, etc.). In recent years, however, the Museum has acquired a number of important marbles which, although unnoticed by Michaelis and his successors, clearly derive from private collections of long standing in the British Isles.

Outstanding among the re-discovered Greek sculptures is the late fourth century B.C. votive relief from the cella of the temple of Nemesis at Rhamnous, brought back from Athens in 1811 by J. P. Gandy Deering and, although frequently cited from the Dilettanti engraving of 1835, lost until shortly before acquisition from Dr. E. Gandy of Gipsy Hill in 1952 (Ashmole, *Nederlands Kunsthistorisch Jaarboek*, 1954, 91-100). The late first century B.C. grave relief of the corn-factor L. Ampudius Philomusus and his family (A. H. Smith, *JRS* 8 [1918] 179-182; Vessberg, *Studien*, pl. XLII, no. 2; R. Paribeni, *Ritratto*, 18, fig. 19) was originally found near the Capene Gate in Rome ca. 1700 and was there for about one hundred years. Shortly before its acquisition for the British Museum it was in the possession of a contractor in St. John's Wood, where it was said to have been for fifty years.

Another non-Romano-British marble of curious provenience is the inscribed marble portrait-herm of Rhoummas, probably a philosopher-"saint" from the eastern provinces of the Roman Empire in the period ca. A.D. 120-150 and similar to the Agora example. It was discovered in 1948 in the lumber-room of a Kentish antique dealer, and is doubly curious as having been carved from the torso of an earlier statue (of Praxitelean male type?). The herm appears to have been known, at least to a schoolmaster in Ashford, Kent, as long ago as 1910 (Haynes and Tod, *JHS* 73 [1953] 138-140; Tod, *JHS* 75 [1955] 155). The Museum acquired in 1954 a marble, which although recorded late in the last century in the Villa Corsini in Rome, has been in England for over thirty years at least. It is the statuette (H.:0.48 m.; Inv.no.1954.5-20.1) in yellowed Luna marble of the boy L. Julius Magnus (pl. 110, fig. 25). The mortuary character of the inscription and the excellent condition of the surface, with possible traces of original colour, suggest that the sculpture derived from a *columbarium*. Comparison with Museo Nazionale Romano, Feletti-Maj, *Ritratti*, no. 172 suggests that Julius died early in the reign of Trajan, or, if we use Poulsen, *Portraits*, no. 55 (Ince Blundell, no. 182), later in the Flavian period. The whole figure, especially in the emphasis on the studious qualities of the lad, may be compared with the sepulchral *aedicula* in the Museo Nuovo Capitolino of the literary prodigy, the child Quintus Sulpicius Maximus, who died late in the reign of Domitian (Mustilli, *Museo Mussolini*, 97, pl. 56, no. 224,1).

London, Buccleuch Collection (see above, Dalkeith Palace).

London, Devonshire House (see above, Chatsworth).

London, Dulwich Picture Gallery (Dulwich College. Open).

On the lawn, beside the Mausoleum, are two Roman statue bases, carved in Greek island marble. They are both enriched with bulls' heads and garlands; the base on the right has paterae in the intervals. This base also has a garland of fruits and large fillets over the bulls' heads, while the pendant has vine and grape garlands. Each base has a modern stone pedestal. Before the war they were set with flower vases (Summerson, *Sir John Soane*, 36ff, fig. 42; Bolton, *The Works of Sir John Soane*, 76ff). The base on the right was split by the flying bomb which damaged the Gallery in 1944.

Preparatory and progress drawings of Soane's architectural work in Sir John Soane's Museum show these bases were intended for their present location from the outset (e.g. Drawer 13, Set 6, Sheets 5ff, one dated 1812). In several pre-construction watercolours we see that Soane evidently intended procuring antique statues for the bases. Whether Soane procured these bases for the benefactor of the Gallery, Sir P. F. Bourgeois, R.A., or whether they came in the collection Bourgeois inherited from the picture-dealer Noël Desenfans is not known; the latter seems more likely.

London, Guildhall Museum (The Corporation of London. Open).

Michaelis (p. 434) made brief mention of the collection. The Museum, housed during rebuilding in the Royal Exchange, contains an extensive range of classical antiquities from finds in the City of London. The objects include gold ornaments, bronzes, terracottas, clay moulds, altars, architectural fragments, and mosaics. The outstanding marbles are the sculptures from the recently excavated Walbrook Mithraeum (*JRS* 44 [1954] 99; *ILN* [25 Sept. 1954-16 Oct. 1954] four issues). Several of these are of quality sufficient to indicate they must have been imported into Roman Britain in ancient times (provisionally published in *Sculptures from the Temple of Mithras, Walbrook*. Guildhall Museum Publication). These pieces confirm the tradition that the three Ransom collection marbles, now in the London Museum

(Part I, p. 140), came from nineteenth century excavations on the same site.

Two marbles are mentioned because they are outstanding works of art and because they reflect well-known Greek originals: No. 1, head of Athena, in crystalline Greek marble (H.:0.23 m.; the helmet probably added in bronze). This head is a variant of the Medici-Carpegna type, copied from a colossal bronze statue of ca. 450 B.C. and usually attributed to Pheidias or his circle (E. Paribeni, *Sculture greche*, 58, no. 101 with list of replicas). Most of the copies, which vary considerably in arrangement of hair beneath the helmet, are of the size of the original. The smaller size of the Walbrook Athena indicates it may copy another version, perhaps even a late Hellenistic original in the high classical manner (cf. the Vatican Magazine head: Kaschnitz-Weinberg, no. 43, pl. XIV for the Medici-Carpegna head closest to this; also INCE BLUNDELL nos. 204, 211 for other variants on a reduced scale).

No. 2 is a head of Serapis, also with the neck worked for insertion in a bust or statue (H.:0.38 m.; Greek mainland marble). The Walbrook Serapis type is the Roman version, best seen in the head in the Sala Rotonda of the Vatican (Lippold, *Cat.* III, 1, no. 549, with a rolled fillet derived from Zeus types) and directly influenced by the prototypes of the Otricoli Zeus (Lippold, *op.cit.* 110ff, no. 539). This later Serapis type differs considerably from the Alexandrine original, attributed to Bryaxis, the older or the younger, and its derivations (e.g. Bieber, *The Sculpture of the Hellenistic Age*, fig. 388; cf. *AJA* 59 [1955] 260). Like the Athena, this particular head is a copy of the Antonine or earlier Severan periods.

LONDON, the former collection of W. R. Hamilton.

The Parian marble head of Berenice, wife of Ptolemy III (died 221 B.C.), a work of ca. 240 B.C., had already achieved considerable celebrity when Michaelis wrote (*Anc.Marbles*, 434). Like the two outstanding heads at KINGSTON LACY (see above), it was brought from Egypt by the Consul Baldwin in the late eighteenth century. Like the Arsinoe II, it was engraved in the *Specimens of Ancient Sculpture* of the Dilettanti Society (II, 1829, pl. 39). This exceptionally beautiful head, the back of which was completed by a veil (now missing), has been recently placed on deposit in the British Museum by Admiral Sir Louis Hamilton, K.C.B. (Inv. 1953. 4-29.5). It is exhibited in the Ephesus Room.

LONDON, K. J. HEWETT, Esq.

Mr. K. J. Hewett, the antiquarian, of 60, Park Street, W.1., had in his possession at the time of writing an excellent example of the group of portraits identified by L. Budde (*Jugendbildnisse des Caracalla und Geta*, 25ff; *NouvClio* 4 [1952] 246-250) and others as portraits of Caracalla in the years shortly after A.D. 200 when the young Augustus was about thirteen years of age and slightly older (pl. 111, fig. 30). This particular heroic head (Max.H.:0.42 m.) in island marble would seem to show the Severan Crown Prince when about fifteen, or in the years immediately before his appearance on the Arch of the Argentarii and at least twice on the Severan tetrapylon at Lepcis. Budde (*op.cit.*, pls. 14-16, 19) illustrates heads comparable to this unpublished example, which can be related to Vatican, Braccio Nuovo no. 70 and Ny Carlsberg no. 728 (also no. 727). The style of the Hewett Caracalla indicates an ultimate provenience of the western coast of Asia Minor; the neck has been worked for insertion in a bust or, more likely, an over-lifesize statue, such as adorned the inflated architecture of the Severan baths in Rome. The marble appears to be Proconnesian. The other outstanding head of this group in England is that now in the Stables at WILTON HOUSE (Poulsen, *Portraits*, 103, no. 99; *AJA* 59 [1955] 90).

LONDON, Lansdowne House (Part I, p. 139f, also pp. 131, under BOWOOD, and 132, under CLIFTON HALL).

The present locations of a number of Lansdowne marbles not mentioned in Part One have been traced through various sources. No. 4 (96), a Statue of Apollo, is now in Stockholm, in the Bergsten collection (*EA* 4900; Lippold, *Handbuch*, 270, note 2). (This and other Lansdowne marbles listed as in the Bergsten collection will be found in Asplund, *Coll. de peintures et de sculptures appartenant à M. le Consul Général et à Madame Karl Bergsten* II, 1943.) No. 11 (8), a Roman altar, is in Sir John Beazley's collection at Oxford. No. 9 (98, with Plate), a Statue (restored torso) of the Running Artemis as a Huntress, is in the same Swedish collection (*EA* 4902; Lippold, *Handbuch*, 291, note 3), as is No. 30 (109), a Head of Trajan set upon a heroic statue (both heavily restored; F. Poulsen, *EA* XI, 12; Gross, *Bildnisse Traians*, 127, no. 22, could not trace the piece beyond "Swedish pvt. coll."). No. 31 (108), a Statue (torso antique) of Dionysos (Reinach-Clarac, 391,

2), is now in the Ludington collection in Santa Barbara, California. No. 33 (106, with Plate) is not at Bowood as erroneously reported in Part One but is in the London art market (further recent bibliography: E. Paribeni, *Sculture greche*, 61, under no. 106; Lippold, *Handbuch*, 193, note 6). No. 35 (104, with Plate), the statue of the youthful standing Hermes, next to the Herakles perhaps the most-discussed piece in the collection and in nearly perfect preservation, is now in the possession of the Hearst Estate at San Simeon (Lippold, *Handbuch*, 178; Blümel, 90 *Berliner Winckelmanns Programm*, 1930, 15, fig. 7 and bibl.; Picard, *Manuel* II, II, 651, 704, note 6 and III, I, 320, note 1). No. 41 (91), the torso of the Apollo Sauroctonos, restored and with an ancient head set to look like a Narcissus, is also in the Bergsten collection in Stockholm (*EA* 4907; Lippold, *Handbuch*, 240, note 6; Picard, *Manuel* III, I, 543, fig. 228). This statue is said by Amelung to be probably the replica found in 1777 on the Palatine in the Villa Magnani, along with the Sauroctonos now in the Galleria delle Statue, no. 264 (*Vat.Cat.*, II, 452; also under 558ff, no. 375), but Gavin Hamilton wrote of the "Narkissos" to Lord Shelburne on 9 August 1775. In the discussion of no. 15, p. 20 of E. Paribeni, *Sculture greche*, the head set on this figure, rather than No. 81 (41), is surely intended.

No. 65 (20, with Plate), the Statue of Hermes, a replica said to be superior to its well-known counterpart in the Vatican Belvedere (no. 53), has been traced to the Ludington collection in Santa Barbara, California (*EA* 4911, 4912 right; Lippold, *Handbuch*, 275, note 2; Picard, *Manuel* IV, 3[illegible], fig. 125). No. 71 (30), the charming and quite exquisitely carved late first century A.D. Grave Altar of Claudius Hyllus, has reappeared in the possession of Bert Crowther, Ltd., Syon Lodge, Isleworth. Although possessing one of the most distinguished epigraphic pedigrees of any Roman marble (*CIL*, VI, no. 15118) and although sketched countless times by Renaissance and later scholars or artists (Hülsen, *Römische Antikengärten*, 13, no. 13 [Cesi] fig. 8), its interest as a work of decorative art has been generally overlooked, and consequently it has never been previously published with a photograph (pl. 106, fig. 11). No. 86 (52), a restored and worked-over head called Ariadne, on a veined black and white marble pedestal with porphyry base, is in the group of Lansdowne marbles in the Bergsten collection in Stockholm. So also is No. 91 (62), the statue of Dionysos restored as a terminal figure (Reinach-Clarac, 375, 8) and originally from Villa Adriana.

Finally, of the three important Egyptian and Assyrian antiquities, Smith No. 118 (68, with Plate), a kneeling Egyptian official of the XXVI Dynasty, in black basalt, is now in Paris, in the collection of Maurice de Rothschild. It is referred to, with correct date, in *Revd'egypt* 6 (1951) 235; the official's name should be Nekht-hor-heb and not as given in Christie's catalogue. Smith No. 119 (51, with Plate) and No. 120 (50, with Plate), the two Assyrian reliefs from Khorsabad, sent by Sir Stratford Canning to the third Lord Lansdowne in 1845, have been in New York, in the Metropolitan Museum, since 1933. (33.16.2; 33.16.1; the second is *BMMA* 28 [1933] 24, fig. 5.)

LONDON, Sir John Soane's Museum (Part I, p. 140; see also above, under LONDON, Dulwich Picture Gallery).

LONDON, Spink and Son, Ltd.

A great many of the marbles, bronzes, and vases described by Michaelis and those writing after him have passed through the Antiquities Department of Messrs. Spink, 5-7, King Street, St. James's. A number of these have been mentioned under the lists of collections from which the pieces came (e.g. COOK [Richmond], DEEPDENE, LANSDOWNE, MARGAM PARK, etc.).

Because of its importance, it is worthwhile to illustrate and mention here a statuette (H.:0.28 m.) in Parian marble presently with Messrs. Spink from a collection formed in Rome late in the last century (pl. 105, fig. 7). The statuette is a replica of the type identified by Miss Bieber with the Venus Genetrix of Arcesilaus made as the cult statue for the temple in the Forum of Caesar (*RM* 48 [1933] 261-276). Prof. Elderkin (*AJA* 42 [1938] 371ff) saw in the figure beside Aphrodite the second Eros rather than Iulus the grandson of Aeneas and ancestor of the Julian *gens*; he suggested that the attributes of two Erotes, the apple, and the wreath of flowers found in comparing the four replicas known to Miss Bieber (Rome, Fulda, Louvre [from Syria], Louvre [from Emesa]) better suited a representation of Aphrodite, the successful contestant for the prize of beauty, rather than the victorious progenetrix of the Julio-Claudian line. In the new statuette, which has been pieced together with plaster but is unrestored, the garland merges with the drapery of the right shoulder (as in the more

familiar Louvre Venus Genetrix types: E. Paribeni, *Sculture greche*, 65, no. 117; Walston, *Alcamenes*, 201ff) and clearly shows the apple in the lowered left hand. Only the place where the left leg of the Eros on the left shoulder touched Aphrodite's garment remains to indicate his presence, but the "Iulus"-Eros at Aphrodite's side holds roughly sketched attributes, a garland about his neck and a reversed torch beside him on the rocky plinth. These attributes are certainly more appropriate to a late Hellenistic type of Eros than to Iulus.

London, Victoria and Albert Museum (Part I, p. 141).

No. 2 (A.6-1949) of the permanent collection, the Colossal Sandaled Foot in porphyry, can be established as having come from the Cook collection, Richmond, for it was photographed there for Delbrueck (*Porphyrwerke*, 57f, fig. 10, as perhaps from a seated statue). The collection has recently received a very interesting piece on loan from Dr. W. L. Hildburgh, F.S.A. (no. 5226). It is a porphyry head of a bearded Eastern barbarian. Its size and style make very possible the suggestion of the exhibition label, that it is from the sarcophagus of St. Helena in the Vatican (cf. Delbrueck, *Porphyrwerke*, 216-218; Ince Blundell, no. 385, of poorer workmanship).

It should perhaps be noted that many of the vases in the Victoria and Albert Museum are illustrated in a book issued by the Museum of Practical Geology: Sir Henry de La Beche and Trenham Reeks, *Catalogue of Specimens Illustrative of the Composition and Manufacture of British Pottery and Porcelain from the Occupation of Britain by the Romans to the Present Time*, London 1855.

Marbury Hall (Part I, p. 142).

Despite the fairly complete account previously given, a number of Smith Barry sculptures have remained unaccounted for. A rare, small auction catalogue gives a partial answer. On 15, 16 March 1933, Messrs. Arber, Rutter, Waghorn and Brown (Lionel Brown) of 1 Mount Street, London, sold the "Remaining Contents of the Residence." Many of the marbles were in this sale, but comparison with previous information reveals immediately: 1) that Michaelis nos. 13 and 45 were bought in and resold in the Sotheby's sale 29 July 1946; 2) that others were bought in and remain at Marbury. The lots in question were 735-777.

Since a substantial portion of the collection was dispersed, however, it is of value to list the auction lots followed by the Michaelis Marbury numbers. Lot 735 = M.21 (Male Torso, "compared by Conze with the Borghese boxer in the Louvre"); Lot 736 = M.22 (also Sotheby, 27 July 1933; see Part I); Lot 737 = M.28 (a Marcus Aurelius by Cavaceppi: Wegner, *Herrscherbildnisse*, 134); Lot 738 = M.7 (statue of Eros: Reinach-Clarac, 358, 3); Lot 739 = M.6 ("Electra," an Aphrodite known in at least nine replicas and variants: Borda, *Pasiteles*, 58ff; Waldhauer, *Ermitage* III, 10, under no. 228), now Maplewood (N.J.), Joseph V. Noble (the restorations have been removed); Lot 740 = M.16 (statue of a herdsman: Reinach-Clarac, 482, 4; *JdI* 51 [1936] 58); Lot 741 = M.5 (Neo-Classic Astragalizousa replica: Brunn-Bruckmann 520, Palazzo Colonna and seven other replicas); Lot 742 = M.11 (group of a Satyr on an Ass: Reinach-Clarac, 391, 5); Lot 743 = M.9 (Roman youth as Vertumnus, with alien second-third cent. head: *EA* 3103f); Lot 744 = M.3 (statue of Apollo; Reinach-Clarac, 240, 3; Maviglia, *RM* 28 [1913] 47); Lot 745 = M.13 (a Fountain Nymph, based on a fourth century Leda type: Picard, *Manuel* III, 1, 371, 385); Lot 746 = M.41 (see Part I); Lot 747 = M.10 (the Muse Thalia, one of at least nine parallels: Reinach-Clarac, 389, 5; *EA* XVII B, 7; Johnson, *Corinth* IX, 24f; etc.); Lot 748 = M.19 (statue of a Boy with a bird, the head not antique: Reinach-Clarac, 538, 7; *EA* XI, 26).

Lot 749 = M.29 (Lucius Verus, pendant to M.28, above: Wegner, *Herrscherbildnisse*, 234); Lot 750 = M.30 (Commodus, heavily restored: Wegner, 259); Lot 751 = M.1 (statue of Zeus Seated on a Throne: Reinach-Clarac, 184, 5; still at Marbury, coll. Miss E. Parsons); Lot 752 = M.45 (a rectangular cinerarium: *CIL*, VI, 29157). Michaelis did not describe in detail a number of other altars and sepulchral marbles; M.45 was his last separate entry. Thus, Lot 753 was another cinerarium, and Lot 755 was a rectangular grave altar. Lot 754 = M.26 (head of Antoninus Pius: *EA* 3106; Wegner, 134); Lot 756 = M.20 (the colossal Antinous, replica of the Lateran statue and still at Marbury, coll. Parsons: Marconi, *MonAnt* 29 [1923] 193f, no. 86); Lot 757 = M.31 (Septimius Severus, school of Cavaceppi: *EA* XI, 27); Lot 758 = M.36 (the Jenkins Puteal, still at Marbury: Hauser, text to Brunn-Bruckmann 599; E. Paribeni, *BdA* [1951] 109, no. 28); Lot 759 = M.42 (a round altar). Lot 760 was the porphyry amphora, Delbrueck, *Porphyrwerke*, 245 (visible in *EA* 3100), perhaps an-

cient, and Lot 761 was M.15, a male figure on horseback, found by Hamilton in the Tor Colombaro (Reinach-Clarac, 482, 4; *JdI* 51 [1936] 58; Lansdowne Sale Cat., 5).

Lot 762 was described only as "a circular medallion with a head of a man in high relief (20 in.)" and "a marble discus with a head of a female in high relief (15 in.)." The first needs no introduction as the celebrated Menander (cf. recently: Hafner, *Späthellenistische Bildnisplastik*, 94f). The remaining lots included heads, a green porphyry vase (771 —probably that drawn for Dal Pozzo: B. M. Franks no. 484), busts, bases, and reliefs, many of which were patently not ancient.

Margam Park (see Part I, 142-143)

The black-figured hydria, Michaelis no. 16, was sold at the Christie sale (October 29th, 1941) as Lot no. 429, and, after some months in the London market, was acquired by Manchester. It has since been published, without bibliography, by T. B. L. Webster (*Manchester Memoirs* 85 [1941-1943] pp. 40-41, pl. 2; acc. no. III H 50).

Melchet Court (Melchet, Hampshire; Collection of the late Lord and Lady Melchett).

Only incidental comment was made on outstanding marbles from this relatively modern collection in Part I (Deepdene, London, University College, etc.) because the marbles were only too recently dispersed to serve any useful purpose by notation of their whereabouts. The growth and history of this, one of the best known classical collections formed in the British Isles since the Michaelis era and worthy of comparison in a limited way with the Museo Barracco in Rome or the Getty Museum in California, was thoroughly chronicled by Mrs. Strong in her excellently illustrated catalogue prepared with assistance from Profs. Ashmole and A. J. B. Wace (*Catalogue of the Greek and Roman Antiques in the Possession of the Right Honourable Lord Melchett*, Oxford and London, 1928; reviewed by Beazley, *JHS* 49 [1929] 310f). Mrs. Strong's catalogue was of special value to students of British private collections for her comments on the progress of cataloguing since *Ancient Marbles*, for the number of comparative references to other British collections cited, and for the fuller publication of pieces from older collections dispersed in the generation before 1920 (e.g. Deepdene, Sir Charles Robinson, etc.).

The Melchett collection, housed both at Melchet Court and 35 Lowndes Square, London, was for the most part sold in four auction sales: 1) Christie's, 23 April 1936; 2) Sotheby and Co., 14 May 1946 (a bronze, and the majority of the terracottas and vases); 3) Sotheby, 24 May 1951 (the majority of the marbles and bronzes, and four important vases); and 4) Sotheby, 26 April 1954 (Lots 30-32, miscellaneous pottery: Egyptian bowls, Cretan pottery, and Roman lamps). A number of marbles, a bronze, and several vases do not appear in Mrs. Strong's *Catalogue*; conversely, several marbles in the *Catalogue* cannot be traced in the three principal sales. The notes following are in the *Catalogue* order, with extra items placed after the catalogued pieces and the sales referred to as Sale I-III, followed by the Lot number.

Cat. no. 1 (Sale II, Lot 137), the bronze statuette of Apollo from Eastern Thrace, was considered archaistic rather than fifth century work by Prof. Beazley (*loc.cit.*). It was exhibited in 1946 at Burlington House (*Greek Art*, no. 179, pl. 67; also S. Reinach, *GBA*, 1932, 248ff). It is now in the possession of Dr. R. Käppeli, Meggen, Switzerland. No. 2 (Sale III, Lot 23?), archaistic statuette of Dionysos, was Deepdene, Michaelis 36 (Lot 214). No. 3 (Sale III, Lot 24), head of a goddess, replica of the "Pheidian" Aphrodite in Naples (BrBr 576), passed to the collection of the late Dr. Philip Nelson, "Beechwood," Calderstones, Liverpool (*EA* 4923; Lippold, *Handbuch*, 187, note 3; Langlotz, *Phidiasprobleme* III). The Melchett purchases and other classical antiquities from Dr. Nelson's collection have been recently acquired by the Liverpool Museum. No. 4 (Sale I, Lot 80), the Hope Hygieia (also Lippold, *Handbuch*, 253; Arias, *Skopas*, 112) has been mentioned in Part I (Deepdene) as now in Los Angeles. No. 5 (Sale III, Lot 31), the torso of a statuette of Hygieia, was also listed by Arias (*Skopas*, 123, M.12, no. 18) in the Asklepios and Hygieia of Tegea copies (also Lippold, *Handbuch*, 237, note 5). No. 6 (Sale I, Lot 81; Sale III, Lot 28), the votive stele to Asklepios and Hygieia, is now in the collection of El Conde de Lagunillas, Havana, Cuba. Prof. Beazley noted (*loc.cit.*) that the Asklepios type was similar to that on a late fifth century B.C. relief, Athens 1346 (*EA* 1221), while the Hygieia had a fourth century look.

No. 7, a Hellenistic male torso, was Sale III, Lot 32; No. 8 = Sale III, Lot 33 (questioned as Polyclitan by Beazley). Both Nos. 7 and 8 are now in the Lagunillas collection. No. 9 = Sale III, Lot 34. No. 10 = Sale III, Lot 43 and is the Roman statu-

ette of Narcissus (*EA* 4926; Lippold, *Handbuch*, 311, note 1). No. 11 = Sale III, Lot 44 (Plate), a Cnidian torso, Lagunillas. No. 12 = Sale III, Lot 45, torso of Artemis, Lagunillas. No. 13 = Sale III, Lot 22, ivy-crowned head of Dionysos. No. 14 (III, Lot 46), head of Eros, passed to the H. Clifford Smith collection. No. 15 (III, Lot 41), the group of Eros and Psyche, is now in the British Museum (1951.8-1.2). No. 16 (III, Lot 29, Plate), the bronze statuette of a dancing Satyr of questionable date, has been reported in the collection of H.E.Mon. J. Ortiz-Linares, Bolivian Legation, Brussels. No. 17 (III, Lot 26?) is the wrongly restored group of Herakles and the Keryneian Hind (cf. Loeffler, *Marsyas* 6 [1954] 10ff). Nos. 18 (Hellenistic male torso) and 19 (statuette of Pan) were not in the sales, but the latter was at Syon Lodge in 1954 (Deepdene, Mich. 27). No. 20 (III, Lot 42), the head sometimes called Lycurgus, also passed to the Nelson collection, Liverpool (*EA* 4924; Lippold, *Handbuch*, 303, note 1; Haynes and Tod, *JHS* 73 [1953] 138f), as did the head of Demosthenes (No. 21 = III, Lot 30; *EA* 4925; Suhr, *Portraits of Greek Statesmen*, 44, no. 31).

No. 22 = Sale III, Lot 38; a Scopaic female head. No. 23 = Sale III, Lot 39, the "Menander," and is now in Dayton, Ohio (Ringling Museum, Florida, *Director's Choice, A Loan Exhibition*, Feb.-March 1955; Hafner, *Späthellenistische Bildnisplastik*, 95). Mr. Hewett kindly states that the back of the head, which was restored, has now been removed. No. 24 (Sale I, Lot 83) was the "Portrait Head of a Poet," a replica of the pseudo-Seneca types (recently: D. M. Robinson, *AJA* 59 [1955] 25ff). No. 25, the Graeco-Alexandrine youthful male head, probably a portrait of a Ptolemy, appeared in the Sotheby Sale, 26 April 1954, as Lot 69, and No. 26 (Sale III, Lot 40), bust of Faustina I, also Lagunillas, is published by Wegner, *Herrscherbildnisse*, 215; E. Feinblatt, Los Angeles *Bulletin*, Spring 1953, 10. No. 27, portrait head (perhaps the younger Faustina), was not in the Sales, nor were Nos. 29, 30, a head of Hadrian and a fragment of a small statue of a man of the Hadrianic period. No. 28 (III, Lot 35) was a head of an imperial lady, perhaps Julia Mammaea. No. 31 (III, Lot 36; IV, Lot 69), was the head of a "deified Empress." No. 32 was a bust termed "very probably Gordian III," and No. 33, a later third century A.D. portrait of an elderly man, may be the "head of a Roman" which passed as Lot 37 in Sale III.

The fortunes of No. 34, the small statue of the deified Herakles, are as good an example as any of the pitfalls which await those who trace marbles in the era of modern taste. Herakles was seen in July 1954 at Syon Lodge in condition similar to that in the Melchett *Catalogue* photograph. In July 1955 it was in the possession of Spink and Son, and greatly improved by removal of all restorations (pl. 105, fig. 8). No. 35, a head from a statuette of the Roman period with modern herm bust, seems to correspond with Sale II, Lot 96. None of the remaining four marbles in the *Catalogue* can be traced in any of the sales; No. 36 (head of Silvanus), No. 37 (*oscillum* with dancing Maenad), No. 42 (Neo-Classic head of a Roman of the late Republic), and No. 43 (relief with figure of Ceres). No. 42 was seen in the London art market striving valiantly to pass as an antiquity. The terracotta heads (Nos. 38-41) were Sale II, Lots 93, 94. Sydney acquired Strong No. 38 (Sydney 46.50) and No. 40 (Sydney 46.51)

In addition there are five marbles and a bronze of note, which were not in the *Catalogue*, but which appeared at the Sales. Sale III, Lot 25 was the relief fragment, a girl with a horse, which was *Greek Art* (1946) no. 142. It has been termed possibly Argive school ca. 420 B.C. and probably from a metope or frieze. Sale III, Lot 21 was the Head of Aphrodite in Parian marble, school of Praxiteles ca. 300 B.C. (*Greek Art*, 1946, no. 161, pls. 50f). It is now in the Käppeli collection, Meggen, Switzerland. Sale III, Lot 47 can now be identified as the Alexandrine Hellenistic head of Zeus Ammon in the Ny Carlsberg Glyptotek in Copenhagen (V. Poulsen, *Meddelelser* 11 [1954] 5ff, 2 figs.). The bronze statuette of a Hellenistic ruler, labelled Seleucus IV, in the William Rockhill Nelson Gallery, Kansas City, Missouri is said to come from Lord Melchett's collection (*FastiA* 2 [1947] no. 1841; *Art Quarterly* 9 [1946] 178, 181). A late Hellenistic grave relief of a veiled lady seated, with her feet on a footstool, has had a meteoric career in the London sales rooms. It was Sale I, Lot 82; Sale III, Lot 27; Sotheby's, 20 July 1953, Lot 28; and finally Sotheby's, 26 April 1954, Lot 71. The most recent buyer was Sir Holyrod Pearce. The relief has been variously dated in these sales from ca. 300 to 100 B.C.; the last date is nearest the truth. Lot 47a added at Sale III was a Renaissance or later head of Vitellius (of the type *AJA* 59 [1955] pl. 22, fig. 49).

The vases, Strong Nos. 44ff, went on the market with Sale II. No. 44 (Sale II, 88) is now New York

46.11.7 (Beazley, *ABV*, 434, no. 3). Of No. 45 (Sale II, no. 84) there is a drawing in the German Institute in Rome; the vase has been lost sight of. Nos. 46 and 47 (Sale II, 85-86) are in Los Angeles (A5933.50-28 and 10). Nos. 48 (Sale II, 87), 49 (Sale II, 89), 50 (Sale II, 90; *Cat. Sotheby, Feb. 14th, 1955*, 106), 51, and 52 (Sale II, 91), are, or were in the London market. Four other vases, not in Mrs. Strong's catalogue, were sold in Sale III, as lots 48 to 51. Lot 48 (pl. 10), a white lekythos, is now in Dr. Käppeli's collection at Meggen (Group R, 4 bis; *Paralipomena*, 1004 and 1550). This, and two other lekythoi (lots 49 and 50) were exhibited at the Exhibition of Greek Art, Burlington House, 1946 (nos. 107, 104, and 105). A red-figured pelike, lot 51, is now in the British Museum (1951.9-9.1; *BMQ* 17 [1952] 73-74, pls. 28-29; detail, Richter, *Attic Red-figured Vases, a Survey*, fig. 108; Beazley, *Paralipomena*, 11, 184, 1080-1, 1116, 1737). P. Corbett has seen that the pelike is close to the Dinos Painter and may be an early work by him.

Nottingham Castle (Nottingham City Museum and Art Gallery. Open).

Nottingham Castle was a seventeenth century residence of the Dukes of Newcastle. It was adapted for use as a Museum and Art Gallery in 1878. In 1885-1886 Lord Savile, also remembered for his excavations at Cività Lavinia in Latium (Leeds, Part I, p. 138), presented the Art Museum antiquities excavated under his patronage at Nemi. The Nemi antiquities at Nottingham were published by G. Harry Wallis in 1893 (*Illustrated Catalogue of Classical Antiquities from the Site of the Temple of Diana, Nemi, Italy*) and by F. Poulsen (*ActaA* 12 [1941] 1-52) in connection with that part of the Nemi material which was acquired from the Prince Orsini by the Ny Carlsberg Glyptotek in Copenhagen (see also *Ausonia* 3 [1908] 117ff; 5 [1910] 109f). One of the more important Nemi portraits, the head of Julius Caesar of the Campo Santo type (*ActaA* 12 [1941] 14f, figs. 10ff), has been reconsidered in E. Simon's discussions of the Caesar types (*AA* [1952] cols. 126f).

The well-known bronze group of "Diana or the Deified Drusilla," surrounded by seven votaries, from Lake Nemi, was offered for sale by Spink and Son in 1911 at the price of £25,000. Its fame was such that King Edward VII shortly before his death commanded a private view of these pieces at Kensington Palace (Spink and Son, *Illustrated Catalogue of a Selection of Antiques and Objets d'Art* [1911] 51; *RA* [1909] 2, 177-187, pls. 11ff). A decade later the principal statue was acquired by the British Museum (inv. 1920. 6-12; Bieber, *RM* 48 [1933] 266, fig. 4: Hellenistic-early Republican). One of the smaller figures reappears in the Spink catalogue of 1923 (*Greek and Roman Antiquities from Famous Private Collections & Recent Excavations*, p. 17, no. 30); the same, and another were sold at Sotheby's on Dec. 19, 1928 (pl. 9, nos. 57-58); others were on the New York market in the summer of 1947.

Osborne House (Part I, p. 144).

The marbles discussed previously are those, now at Windsor and in the British Museum, which Queen Victoria acquired, mostly from older English collections, before the death of the Prince Consort. The most attractively arranged little Museum in the Swiss Cottage has not been noticed previously. It contains, among many other associations of Queen Victoria's happiest days, a number of Greek and Roman antiquities, mostly brought by Edward VII when Prince of Wales from Rome and the Greek East in 1859.

The following antiquities, all in the first division of the room, deserve special mention: (On top of the cases) 1) Right hand portion of a Greek fourth century B.C. funerary banquet relief, with the heroized dead reclining within a pilastered Doric *aedicula* (from Rome, 1859); 2) A set of Egyptian Canopic jars (brought from Thebes, 1859, by Prince Alfred, Duke of Edinburgh; in the left and right centre cases). 3) Marble medallion with bust of Juno, Julio-Claudian period (max. diam. 0.15 m.; deposited by the late Queen Mary about 1915); 4) Island marble sepulchral stele with scene of farewell (Rome, 1859); 5) Female head from a large, unfinished (?) mid-fourth century B.C. Attic grave relief (H.:0.30 m.; from Athens); 6) Two fragments in Pentelic marble of the "ceiling of the Necropolis at Athens," one with dentil moulding; 7) Marble head of a goddess, perhaps Aphrodite or Kore, from a Hellenistic votive relief (H.:0.15 m.; from Halicarnassus); 8) A number of Greek late seventh century B.C. silver plaques and other parts of necklaces "from the Temple of Bacchus, Athens" (Theatre of Dionysos?). Two of these, 0.04 m. square, feature sphinxes and a third a griffin walking r. (Duke of Edinburgh, 1859; cf. the Rhodian examples: Marshall, British Museum, *Jewellery*, 88ff, nos. 1113ff).

There are also fragments from Cnidus, pieces of

mosaic, and terracotta lamps. Among the vases, the outstanding pieces are the upper part of a Rhodian relief pithos of the type studied by Denise Feytmans (*BCH* 74 [1950] 135-180; 76 [1952] 197-200), two Laconian cups, Corinthian aryballoi, a Corinthian amphoriskos, an Attic bf. lekane by the Polos Painter, an Attic bf. eye-cup, and an Attic amphoriskos of the Bulas Group (cf. Beazley, *ABV*, 663).

PETWORTH HOUSE (Part I, p. 144f).

The following antiquities in the collection may be added to Part One and to the Hon. M. Wyndhams *Catalogue* alike. In *JHS* 51 (1931) 106-108, W. H. Buckler published an early Christian sepulchral inscription, from Thrace or Asia Minor and dated between A.D. 215 and 280. On a visit late in 1954 three vases now displayed on a shelf at the extreme left end of the Sculpture Gallery were studied. According to Miss Harris, Secretary to Petworth House, they had been recently brought out of prolonged storage. 1) Attic rf. bell-krater, last quarter of V century B.C. A, Dionysos between maenad and satyr. B, three youths. (pls. 115 and 116, figs. 46 and 47). Attributed by P. E. Corbett to the Following of the Dinos Painter. 2) South Italian rf. pelike, about 350 B.C. A, girl and youth; B, two youths (pl. 116, figs. 48 and 49). 3) South Italian rf. pelike, Apulian, second half of the fourth century B.C. A, woman with fan, seated woman with tympanon, standing youth; above, flying Eros with wreath. B, woman and youth.

On a small shelf in the Sculpture Gallery is one Egyptian black stone statue fragment (H.: 0.13 m.) of note. It is the head and shoulders of a Nomarch of Dynasty XIX, with part of the inscribed back support remaining. The figure is cut off below the shoulders and is mounted in a stone block. The inscription on the back pillar reads: "For the Ka of the Governor. . . ."

In addition to the marbles, the Library at Petworth contains a folio volume made up principally of about six different sets of drawings after the antique. The dates of the drawings range from the late sixteenth century for architectural vistas to a period somewhat before their acquisition (probably in the later eighteenth century) for studies of busts, cameos, etc. To the archaeologist perhaps the most important group is a series of seventeenth century drawings of unrestored statuary and reliefs seen in the Rome area (e.g. an unrestored view of the second century A.D. *congiarium* relief in the Villa Torlonia-Albani: Strong, *Scultura Romana* II, 241f, fig. 147). There appear to be no drawings from Dal Pozzo's *Museum Cartaceum* in this bound volume (see Part I, WINDSOR CASTLE, p. 149).

PIPPBROOK HOUSE (near Dorking; W. H. Forman).

The collection was removed in 1890 to Callaly Castle, Northumberland, and catalogued for the owner, Major A. H. Browne, in 1892. The entire collection was sold in two auctions conducted by Sotheby's. The first took place on June 19th to 22nd, 1899; the second followed on July 2nd to 5th, 1900. The bronzes and vases in the first sale were described by Cecil H. Smith, who had already begun to catalogue the collection in 1888, before it left Pippbrook House. His full account of the objects is in marked contrast to the uninformed and summary entries of the second sale. The following notes are confined to the vases. They give, wherever possible, the present location of the objects, references to Beazley's *ABV* and *ARV*, and an up-to-date bibliography of the unattributed or non-Attic vases. References to earlier collection not given by Smith have also been included.

Part I (Sotheby, 19-22 June 1899). No. 264: Boston 99.515. Fairbanks, *Cat.*, pl. 24, no. 277; G. S. Kirk, *AJA* 55 (1951) pl. 34 and pp. 339-343. No. 265: bought by C. F. Murray. Nos. 266-267: bought by A. Ready. No. 268: Boston 99.507. Fairbanks pl. 27, no. 292. No. 269: Boston 99.508. Fairbanks pl. 28, no. 294. No. 270: Boston 99.509. Fairbanks pl. 28, no. 293. No. 271: San Simeon, Hearst (ex Torr, *Cat. Sotheby, 2 July 1929*, pl. 8, no. 8). No. 272: Copenhagen 4983. *CVA*, pl. 81, 1. No. 273: Boston 99.510. Fairbanks pl. 49, no. 498. No. 274: bought by Spink. On the group cf. Beazley, *BSA* 41 (1946) 14, note 3. No. 275: bought by Wallis. No. 276: bought by C. F. Murray. No. 277: bought by A. Ready. No. 278: Bonn inv. 656. Dohrn, *Die schwarzfigurigen Etruskischen Vasen*, p. 143, no. 5. No. 279: London. Dohrn, *op.cit.* 144, no. 30. No. 280: Cambridge 04.22. Beazley, *ABV*, 516, no. 1. No. 281: Cambridge 04.21. *CVA* 1, pl. 21, 3. No. 282: New York 45.11.2. Beazley, *ABV*, 85, no. 2. No. 283: Boston 01.8058. Beazley, *ABV*, 263, no. 6 (ex W. W. Hope, 1849, no. 68). No. 284: Boston 99.522. No. 285: Boston 01.8060. Beazley, *ABV*, 161. No. 286: once New York, Gould. Beazley, *ABV*, 161. No. 287: bought by Rollin (ex Rogers no. 484). No. 288: Sydney (N.S.W.) 46.04. Beazley, *ABV*, 386, no. 17. No. 289: Boston 00.331. Beazley, *ABV*, 307, no. 62.

No. 290: Havana, Lagunillas (ex Hertz 2959). No. 291: bought by Kelekian and resold in New York, *American Art Gallery Sale 15th-18th April 1903*, no. 521. No. 292: Portland (Oregon) 35.137, illustrated here pl. 114, figs. 39 and 40. No. 293: Berlin, Dr. Karl Peters. Gerhard, *AV*, pl. 52. No. 294: Minneapolis, Walker Art Center, 22.2. H. R. W. Smith, *The Origin of Chalcidian Ware*, 143, fig. H. The vase had passed through the Kelekian Sale of 1903 (no. 520) and the Anderson Gallery Sale of April 19th, 1916 (no. 315). No. 295: ex Rogers 493. No. 296: bought by Spink. Gerhard, *AV*, pl. 32. No. 297: Minneapolis, Walker Art Center, 09.8, bought at the Henry de Morgan Sale of 1909 (*Fifth Avenue Galleries Sale, 16th January 1909*, pl. 2, no. 134) where, as often with de Morgan vases, it is said to be from Vulci. By the Swinger. No. 298: Chicago, University. F. P. Johnson, *AJA* 47 (1943) 385-9. No. 299: Munich S.L. 458. Beazley, *ABV*, 259, no. 18. No. 300: bought by Rollin. No. 301: passed? No. 302: Indianapolis 47.42. Beazley, *ABV*, 374, no. 187 and p. 696. Ex Rogers no. 481, said to be from S. Campanari's collection, hence probably from Vulci. (Pl. 114, figs. 41 and 42). No. 303: Boston 99.516. Beazley, *ABV*, 239, no. 11. No. 304: Boston 01.8053. Beazley, *ABV*, 246, no. 72. No. 305: Boston 99.538. Beazley, *ABV*, 255, no. 6. No. 306: London 99.7-21.3. Beazley, *ABV*, 330 no. 2. No. 307: San Simeon, Hearst. No. 308: London 99.7-21.1. Beazley, *ABV*, 86, no. 8. No. 309: bought by Kevorkian. No. 310: Munich S.L. 459. Beazley, *ABV*, 369, no. 121. Ex Hertz no. 186. No. 311: San Simeon, Hearst. Beazley, *ABV*, 133, no. 2. The provenance Vulci given by Beazley is based on the entry in the de Morgan catalogue of 1901 (no. 192). No. 312: Boston 00.330. Beazley, *ABV*, 135, no. 45. No. 313: Staatsburg (N.Y.), Ruth Livingston Mills Museum (ex de Morgan; 1901 sale no. 399; 1909 sale no. 126). No. 314: San Simeon, Hearst. Brauchitsch, *Die panathenäischen Preisamphoren*, p. 35, no. 37. No. 315: Boston 99.521. Beazley, *ABV*, 662, no. 19. No. 316: Boston, A. S. Dewing, *Ancient Art in American Private Collections*, no. 257 (with references). By the Eucharides Painter. No. 317: Los Angeles A 5933.50-8. Beazley, *ABV*, 343, no. 1; ex Hertz no. 182. No. 318: bought by A. Ready. No. 319: Toronto 285. Beazley, *ABV*, 190, no. 3. No. 320: Toronto 288. No. 321: bought by A. Ready. No. 322: San Simeon, Hearst. Beazley, *ABV*, 205, no. 14; ex Rogers 428. No. 323: Boston 99.525. No. 324: Cambridge 180. *CVA* I, pl. 17, 5. No. 325: later de Morgan sale, 1901, no. 133. No. 326: Providence 30.082. *CVA*, pl. 7; *Bulletin* 27 (1939) 24, fig. 5. No. 327: bought by Stobart. No. 328: Cambridge. *CVA*, Ricketts and Shannon, pl. 2, 2. No. 329: bought by A. Ready. No. 330: Toronto 284. No. 331: Cambridge 37.17. Beazley, *ARV*, 104, no. 4. No. 332: Winchester. Beazley, *ARV*, 106, no. 1. *Not* from the Rogers collection. No. 333: bought by A. Ready. No. 334: Cambridge 37.16. Beazley, *ARV*, 114, no. 14. No. 335: San Simeon, Hearst. Beazley, *ARV*, 277, no. 75. No. 336: San Simeon, Hearst. No. 337: Boston 00.336. Beazley, *ARV*, 91, —. No. 338: San Simeon, Hearst. Beazley, *ARV*, 191, no. 13. No. 339: London 99.7-21.4. Beazley, *ARV*, 191, no. 14. From Vulci (Durand 382). No. 340: Munich I.L. 476. Beazley, *ARV*, 673, no. 3. No. 341: New York market (*Cat. Parke-Bernet, March 15th-16th, 1940*, no. 278). No. 342: Boston 10.178. Beazley, *ARV*, 121, no. 7. No. 343: bought by H. de Morgan (1901 sale, no. 194), now in Atlanta (Ga.), High Museum. Beazley, *ARV*, 700, no. 83. No. 344: bought by H. de Morgan (1901 sale, no. 195). No. 345: Munich I.L. 473. Beazley, *ARV*, 650, no. 4. *CVA*, pls. 55, 3-4 and 56, 7. No. 346: Cambridge 37.23. Beazley, *ARV*, 269, no. 41. No. 347: Boston 00.362. No. 348: Amsterdam 1426. *CVA* Scheurleer III I d-e, pl. 2, 3-4. No. 349: New York, A. Minassian. No. 350: Munich I.L. 47. Beazley, *ARV*, 414, no. 35. No. 351: bought by C. F. Murray. No. 352: San Simeon, Hearst. Beazley, *ARV*, 403, no. 37. No. 353: Munich I.L. Sieveking, *Bronzen Terrakotten Vasen der Sammlung Loeb*, pl. 48. No. 354: Portland (Oregon) 36.137. No. 355: bought by Kevorkian. Beazley, *ARV*, 705, no. 6. No. 356: New York market (*Cat. American Art Galleries, October 29th, 1932*, no. 575 [ill.]). No. 357: London 99.7-21.5. Beazley, *ARV*, 696, no. 26. No. 358: Churt House, Nathan. Beazley, *BSA* 46 [1951] pl. 6 c-d. No. 359: Oxford 1920.106. Beazley, *ARV*, 895, E 1. No. 360: bought by H. de Morgan. Canessa Group. No. 361: Boston 00.339. Beazley, *ARV*, 256, no. 170. No. 362: Reading 52.3.2. Beazley, *Paralipomena*, 1464 [attributed to the manner of the Meidias Painter as no. 485]. No. 363: San Simeon, Hearst. Ex Rogers 330. Beazley, *Paralipomena*, 586 (attributed to the Aischines Painter as no. 188 bis). No. 364: Philadelphia 5462. Schefold, *Untersuchungen*, 59, no. 579; *MJ* 7 [1916] 269-270; 8 [1917] 153; Beazley, *Vases in Poland*, 6, note 2. No. 365: Toronto 355. Beazley, *Paralipomena*, 719-721 (assigned to the Class of the Six Lobsters, no. 5). At one time in the W. W. Hope collection, 1849 sale, no. 53. No. 366: Boston 00.366. Beazley, *ARV*, 69, no. 23. No.

367: passed? No. 36: bought by Massy. No. 369: bought by Rollin. No. 370: Boston 00.383. Bieber, *The History of the Greek and Roman Theater*, 279, 281, figs. 376-7; F. F. Jones, *The Theater in Ancient Art*, fig. 33. Ex de Bammeville sale, 13 May 1854, no. 44. No. 371: once London, Ricketts and Shannon (Attic black stemless cup with modern design, copied from an Etruscan mirror). No. 372: bought by Stobart. No. 373: New York G.R. 1126. Richter, *AJA* 45 (1941) 385, fig. 24. No. 374: bought by H. de Morgan. 1901 sale, no. 374.

Part II (Sotheby, 2-5 July 1900). As said above, the entries in this catalogue are very cursory and defy, for the most part, ready identification. In the following list only those vases are given which can be recognized. No. 106: ex Rogers 397; later, Sotheby 28-29 November 1927, no. 276; Sotheby 3-4 March 1931, no. 169; now in the Paris market (Koutoulakis). No. 107, 2: Bryn Mawr R 2446 (*AJA* 20 [1916] pl. 12). No. 108, 2: Bryn Mawr R 2131 (*AJA* 20 [1916] 313, fig. 1; Beazley, *ABV*, 276, no. 4). No. 116: New York, Kevorkian; Beazley, *ABV*, 258, no. 9. No. 118, 3: New York, Cooper Union 1915.11.28; Beazley, *ABV*, 426, no. 6. No. 128: see Part I, no. 331. No. 134: Leyden I 1952/1.1; *Oudheidkundige Mededelingen* 35 (1954) 40ff; Beazley, *Paralipomena*, 1709, Orestes Painter 2 bis. No. 135: New York G.R. 660 A; ex Rogers 341, Apulian.

The residue of the Forman collection stayed at Callaly Castle and was sold there on September 8th and 9th, 1925. Some of the vases went to the Ashmolean Museum at Oxford and are briefly listed in the *Report to the Visitors* of 1925; a Canosa askos went to Cambridge (9.25; *CVA* 1, pl. 44.4).

SHEFFIELD, The Graves Art Gallery.

Two marbles of interest were acquired in 1949 from THORNBRIDGE HALL (see below) through the Sheffield Corporation Estates Committee. They are: 1) A replica of the upper half of the figure of the Paedagogue from the Niobid group. The style of the sculpture, in spite of weathering from exposure, suggests very fine Italian work of the early seventeenth century. The head and body are one piece, and this confirms that the work is copied after the Uffizi figure, for of the three known antique replicas of the Paedagogue (Uffizi, Louvre, Ny Carlsberg Glyptotek), none has its antique head. The Louvre-Soissons head copies that of the Uffizi figure which is in turn based on sarcophagus reliefs, such as WILTON HOUSE No. 163 (Robert, *Sark.-Rel.* III, III, 383ff, no. 317). The Villa Madama figure now in Copenhagen (*EA* 4646; F. Poulsen, *Cat.*, no. 472a) was sketched about thirty years before discovery of the Medici Niobid group, but it has always lacked all above the chest and shoulders (as the Dosio drawing shows: Huelsen, *Skizzenbuch*, no. 132; Huebner, RM 26 [1911] 322ff).

2. Head of a youthful divinity, probably Herakles, from a later Hellenistic colossal statue in Parian marble and based on a fourth century Scopasian work such as the Genzano or Lansdowne Herakles (see Part I, DEEPDENE, p. 134; OSTERLEY PARK, p. 144). Besides suggesting comparisons with the bronze Herakles in the Palazzo dei Conservatori (Stuart Jones, *Cons.Cat.*, 113, 282ff), the profile—and perhaps the body—of the Sheffield head can be further visualized from a statue found at Gela and published in a private collection in Catania (Libertini, *RM* 52 [1937] 64ff, pls. 21f). The head is paralleled in miniature by that of the statuette of Herakles in crystalline Greek marble, found on the site of the Roman Baths at York and now in the Hospitium of the Yorkshire Historical Museum.

SHOBDEN COURT (Herefordshire; the collection of the late Lord Bateman).

Michaelis (*Anc.Marbles*, 658) quoted Dallaway, "A single statue of Mercury was acquired by the late Lord Bateman, and is now at Shobden. In the opinion of the late Mr. (Charles) Townley it is equalled by few statues of that deity of which he had any knowledge." From a photograph kindly supplied by Miss Ebria Feinblatt, Mr. Ashmole recently identified a statue of Hermes in the Los Angeles County Museum as the Bateman Hermes, which he had seen at Shobden on a visit thirty years ago. The statue was presented (without pedigree) by Mr. W. R. Hearst in 1948 (Inv.no.A.5141-48.379; photo 53.024a).

The head of Hermes (from the photograph) seems to suit a Roman copy of a work of the generation after Polykleitos, but this head (with nose and neck restored) is said not to belong and to be possibly not antique. Polyclitan heads adapted as Hermes, both those after an original merely with wings in the hair and the Graeco-Roman modifications with *petasos*, are not uncommon (e.g. Waldhauer, *Ermitage* II, no. 101; Caskey, Boston, *Greek and Roman Sculpture*, no. 68; Anti, *MonAnt* 26 [1920] 567ff). If not a type used for Hermes in

Roman times (cf. Reinach-Clarac, 364, no. 8 [Florence]; Friederichs-Wolters, *Gipsabgüsse*, 607f, no. 1534), the body is related to the group of bronzes sometimes identified as Apollo or the young Asklepios, perhaps more correctly as Narcissus (García y Bellido, *Esculturas romanas*, 129f, no. 131, pl. 101; P. W. Lehmann, *Statues on Coins*, 36ff; Furtwängler, *Masterpieces*, 300, which go back to ca. 400 B.C.; also Mustilli, *Museo Mussolini*, 321, 1, pl. 86). The close parallel is the reversed "Narcissus" type (Part I, OSTERLEY PARK, No. 1; ROSSIE PRIORY, No. 1).

The collection at Shobden, before sale of the marbles about 1930, also included a head of Demosthenes (photographed by Mr. Ashmole: S. Casson, *JHS* 46 [1926] 76), a bust of Lucilla, more correctly Faustina II (cf. Wegner, *Herrscherbildnisse*, pl. 36 as opposed to 47), and an Italian sixteenth century bronze bust of the Polydeukion type found in Athens in such great numbers (*AJA* 58 [1954] 255. Miss E. Harrison has kindly mentioned another fragment of a head from the Agora, and S. Stucchi publishes the Berlin-Soane type bust in Chalcis as a portrait of Constantinus II!: *Studi Aquileiesi offerti a G. Brusin*, Aquileia 1953, 197ff, figs. 3-6. The capital-type support is characteristically later Hadrianic to Antonine.). Of these three Shobden portraits, the Demosthenes is now in the Capt. E. G. Spencer-Churchill collection, the Lucilla is still unaccounted for (cf. the ancient replica in the Royal Ontario Museum of Archaeology [Photo 2696]), and the Polydeukion is (Aug. 1955) in the possession of Alfred Spero, Esq., London (pl. 111, fig. 29). It will be an interesting and important document when the history of Renaissance copies from the antique is fully written.

STOURHEAD (Mere, Wiltshire; the National Trust. Open).

Michaelis (*AncMarbles*, 661; JHS 6 [1886] 44) mentioned but never saw in the Hoare collection a "Juno or Ceres" (or Flora) praised by Volkmann and Dallaway and probably identical with a Flora from the Mead collection. The statue, said also to come from Herculaneum, is in fact still to be seen in the Pantheon in the gardens, to the right of M. Rysbrack's Hercules and amid casts and copies after antiquities of all sorts (pl. 110, fig. 24). The plinth bears the (eighteenth century) inscription LIVIA AVGVSTA, and the lifesize statue which is in excellent condition (Greek mainland marble; tip of nose, arms, and patches in drapery restored) does indeed represent Livia, or a Julio-Claudian princess such as Antonia Minor, as Ceres. The divine identification is determined by the ancient part of the sheaves of grain in the left hand, against the body. In all respects the figure is comparable to a number of such early imperial statues after Greek fourth century originals: e.g. Reinach-Clarac, 214, 1ff; Poulsen, *Portraits*, 53, no. 28 (HOLKHAM no. 34) and esp. fig. 34, statue of Livia in Tunis (for Livia as Ceres, see F. Poulsen, Ny Carlsberg, *Cat.*, 429f, no. 618). The crisp, deep cutting of the drapery is best paralleled by the "Livia" in Naples (Hekler, *Portraits*, 204a), placed by Poulsen in the period of Claudius. This cutting may be contrasted with the broader folds in the Livia from the Villa dei Misteri (Maiuri, I, 226ff, figs. 94ff). How far the head actually differs from the ideal type can be seen in comparison with the Demeter of Knidos (*JHS* 71 [1951] pls. 1ff).

There are three ancient marbles in the Front Hall, two statuettes in island marble on a table and, opposite on the floor, a small rectangular cinerarium with the questionable inscription ORPHEV. OSSVA TVA BENE QVIESCVNT. The statuette of Zeus, or possibly Poseidon (pl. 105, fig. 4) (H.: 0.83 m.; neck, right arm with fulmen and left hand restored) is a forerunner of a Hellenistic heroic type, similar in restoration to the statue once in the Mattei collection (Reinach-Clarac, 183,1) and, in fact, the prototype in miniature of the *Melos Poseidon* (Bieber, *The Sculpture of the Hellenistic Age*, 160f, fig. 684). Since the support is ancient and a short stump rather than the distinctive dolphin of the Melos statue, the original must have represented Zeus rather than Poseidon. Lippold (*Handbuch*, 270, 370) postulated just such an original by Leochares as the prototype of the Melian Poseidon. This prototype, preserving the Jovian attributes, was adapted to a heroic portrait in the bronze Augustus in Naples (Kluge and Lehmann, *Grossbronzen* II, 93ff; III, pl. 27; West, *Porträt-Plastik*, fig. 162). The higher draping of the himation at the right side in the Stourhead statuette is found also in another reflection of the prototype: the Augustus of the Julio-Claudian relief in Ravenna (V. H. Poulsen, *ActaA* 17 [1940] 32f, fig. 24). The Poseidon and Zeus types with fuller draping of the himation over the left shoulder, known best from two statues found at Pergamum (Horn, *Gewandstatuen*, 49f, pl. 20; Bieber, *op.cit.* 118, figs. 471f), develop from an original of the second half of the fifth century, such as seen in the Louvre statue (Horn, *op.cit.* pl. 20, no. 3), and

show the same dramatic posing of left arm and feet, perhaps under the influence of the Stourhead prototype.

The statuette of Hera or Kore possesses a head close to that of the so-called Sappho Albani (Bieber, *Griechische Kleidung*, pl. 26, 1), and since it appears to belong (restorations comprise the neck with top of the drapery, right arm from shoulder, left hand, patch in drapery), we have a Roman version in miniature of a parallel later fifth century B.C. statue, best seen in the superlative copy known as the Hera of Ephesus, now in Vienna, without its head (BrBr 507; see also under Ny Carlsberg *Cat.* no. 307).

Stowe (Part I, p. 147).

The crucial 1921 sale catalogue alluded to in Part One is titled: *The Ducal Estate and Contents of the Mansion* (Messrs. Jackson Stops, Northampton and Towcester). Two examples will show the difficulty of determining what pieces in this sale were ancient and when ancient in whole or part, what the pieces actually represented. Lot 3713 (The China Room) was described as, "An antique Roman white marble figure of a goat tied to a stump of a tree." Lot 3714 appears as, "An antique chimara in white marble, representing 'The ancient Testudo or Lyle' (sic!), supported on the wings of a swan with tortoise and tree stump. (Found in a tomb close to the village of Adriana, Rome)." For "Lyle" read lyre, suggesting that Hadrian's Villa yielded fragments (restored) of the support for a statue of Apollo, such as that with the torso in Cleveland (Acc. no. 24.1017, J. H. Wade Coll.; Bieber, *Art in America*, 1944, 76f, fig. 10). The "chimara" would surely be Apollo's griffin (cf. the bronze, Reinach, *Rép.Stat.* V, 35, 3).

The Donaldson Sale catalogue (Puttick and Simpson, 6-10 July 1925, Lot 507) date of 1734 for the transport of the Bacchic vase from Hadrian's Villa to Stowe is presumably an error for 1774, the date a similar vase was brought from Italy by George Marquess of Buckingham whose son Richard was created first Duke of Buckingham and Chandos (see Forster, *Stowe Catalogue*, 1848, 47, no. 739). This marble volute-krater (H.: 46 in.) is now in the Los Angeles County Museum (Inv. no. A 5141.51-943), the gift of the late Mr. Hearst in 1951. Although patched and restored in the Piranesi manner, particularly about the frieze of Erotes harvesting grapes, the workmanship appears to be Antonine or even early Severan and from Hadrian's Villa (E. Feinblatt, *Los Angeles County Museum Bulletin of the Art Division* "The Stowe Marble Vase," no. 4 [Fall 1955] 3-6).

Henry Rumsey Forster, in the original sale catalogue of 1848, lists eleven vases (lot nos. 1274-1284). Of these, no. 1275, a bf. neck-amphora, had been given to the Duke of Buckingham by Lucien Bonaparte, the Prince of Canino. It was bought by Purnell B. Purnell, resold at Sotheby's May 8th-16th, 1872, and passed into the collection of Mrs. Eileen Craufurd. At the sale of her vases (Sotheby's, 18th January, 1951) the neck-amphora was lot no. 167. It was bought by El Conde de Lagunillas and placed by him on loan in Manchester. Beazley has attributed the vase to the Group of Copenhagen 114 (*ABV*, 395, no. 5). Another Stowe vase, no. 1274, a red-figured bell-krater in the manner of the Meleager Painter (*ARV*, 873, no. 3), was sold at Sotheby's on Nov. 21, 1929 (no. 232, pl. 3) and again on Jan. 18, 1951 (no. 247). A third Stowe vase, not identifiable in the Forster catalogue, is a red-figured volute-krater connected by Corbett with the Geneva Painter (Beazley, *Paralipomena*, 954): sold at Sotheby's on Jan. 18, 1951 (no. 168, pl. 3) it is now in Los Angeles (A 5933.51-108, formerly numbered A 5933.51-15; on the restorations see *Hesperia* 24 [1955] 23).

Twenty-seven additional vases are briefly listed in the *First Supplemental Catalogue* of October 3rd, 1848. Most of them were bought by Purnell.

Stratfield Saye House, Reading.
(see above, under London, Apsley House)

Thornbridge Hall (Ashford and Longstone, near Bakewell, Derbyshire).

Formerly the home of Mr. Boot, a builder who collected marbles of all sorts from many areas for his garden and lawns, Thornbridge Hall is now a teachers' training college. Two marbles of note, rescued from the grounds, are now in the Graves Art Gallery, Sheffield (see above).

Tynemouth (Northumberland. The collection of the late Wilfred Hall).

The small collection of Greek vases formed by the late Wilfred Hall, Esq., D.Sc., M.A., F.R.A.S., J.P., and formerly on loan to the Laing Art Gallery at Newcastle was sold at Christie's, 26 March 1953 (*Cat. of the Small Collection of Important Ancient Greek Pottery Vases*, Lots 88-98 [and 99?], a separate catalogue following the Currie Collec-

tion). Lot 99 was listed as a small Parian marble head of a man, Hellenistic period. Of the vases, no. 89, a black-figured column-krater, went to Leyden (1954. 2.1; A, *Sale Cat.*, frontispiece; *ILN* [October 10th, 1953] 575; Beazley, *ABV*, 263, no. 9). No. 94, a neck-amphora by the Acheloos Painter, is now in the Kevorkian collection in New York (A, Beazley, *Development of Attic Black-Figure*, pl. 43, 1; *Sale Cat.* pl. 3; Beazley, *ABV*, 383, no. 10). The neck-amphora by the Berlin Painter, no. 96 in the sale, was bought by El Conde de Lagunillas for his collection in Havana (Beazley, *ARV*, 134, no. 44). No. 97, a red-figured oinochoe, is now at Spink's, in London. The Attic bf. amphora, no. 88, and the rf. cup by the Euaion Painter, no. 95 (*ARV*, p. 527, no. 15), are now in the Zurich market (H. Vollmoeller).

WARWICK CASTLE (Part I, p. 148).

Concerning the Warwick vase (Michaelis, 663f, no. 1) Waagen wrote: "Except some of the masks which have needed considerable repair, it is in good preservation." Michaelis relied on his descriptions; a recent visit to Warwick has cleared up a number of questions about the marbles. What has never been noted before is that while important, identifying portions of the Warwick vase are ancient, the majority of the bowl is excellent Neo-Classic work of the type produced in the studio of Piranesi (pl. 106, fig. 10). The ancient portions include: patches in the sides (including the grape vine), the majority of both acanthus-stem handles, the two Bacchic heads in the centre of the side facing the Conservatory doors (shown here), part of one head in the corresponding place on the opposite side, parts of the panther skins on either side, and the silen head on the left of the side away from the entrance. The patently non-antique faun head (with the supposed features of Lady Hamilton) has the same discolouration in the surface as the bottom of the bowl. The surface of the lower part of the bowl has the chisel marks of "ageing" characteristic of Piranesi forgeries (e.g. the urns in the Soane Museum: *Archaeology* 6 [1953] 72f, [ill.]). Since Michaelis states the (partly ancient) foot was added by Piranesi, we may also credit his workshop with production of the majority of the bowl as it is to-day.

Three of the four busts enumerated by Michaelis survived the great fire of 1871 and are still to be seen at Warwick. They are No. 4 ("Scipio") and No. 5 ("Augustus"), on matching red Egyptian granite pedestals in the State Dining Room (*Warwick Castle Guide*, 1954, p. 30). The first is said to have been found "near St. John of Lateran in Rome." The bust called Caius Caesar, said to have been found near Tivoli, brought back by Sir William Hamilton, and now placed on a window ledge in the Armoury turns out to be the Trajan (No. 6), also recorded by Bernoulli (see Gross, *Bildnisse Traians*, 133) but seen by no archaeologist in the years immediately before or, of course, after the fire (pl. 110, fig. 26). The other antique marble (in the Ante Room off the Blue Room) is a small (H.: 0.20 m.), Hellenistic head of a laughing faun, with a wreath of wheat sheaves in his hair. No. 3, the bust of Herakles, like the ruined Endymion sarcophagus, must have perished in the fire after all.

No. 4 is a head in island marble of a Roman probably of the later Republic (as INCE BLUNDELL no. 100; Poulsen, *Portraits*, 51, no. 25; cf. also the Capitoline head: Schweitzer, *Bildniskunst*, fig. 131, and the bust in the left hand of the "Brutus" Barberini: Schweitzer, figs. 18f). The recutting of the hair and cleaning of the wrinkled face makes dating difficult (cf. for features as well as possible late Trajanic date, MARGAM PARK, no. 10: Poulsen, *Portraits*, no. 48, 2 pls. recently at Spink and Son and now in the collection of Prof. D. M. Robinson). The nose, ears and bust from the middle of the neck are restored (H. of head: 0.31 m.). The pendant (No. 5) is a clever eighteenth century creation based on ancient prototypes, such as the Menander-Vergil portraits, official busts of the elderly Augustus, or a contemporary private citizen. The head and neck are inserted in the bust; cutting of eyes and mouth indicate this head is the product of the same workshop which "restored" the "Scipio" bust. The Trajan, on the other hand, is an excellent late portrait of that Emperor, with head and much of the cuirassed bust antique and belonging together (H. of ancient parts: 0.59 m.). The workmanship is characteristic of the better Roman portraits from Villa Adriana. (For other similar representations of Trajan in later life, cf. a Beneventum head: Gross, *op.cit.*, pl. 42a, and a bust known only from a cast in Würzburg: Gross, 110, 132, no. 71, pl. 31a).

WENTWORTH WOODHOUSE (The Earl Fitzwilliam. Part I, p. 148).

Dr. C. M. Kraay has kindly made available certain documents on deposit in the Ashmolean Museum Coin Room relating to the acquisition of the Fitzwilliam coins by the Marquess of Rockingham

in the third quarter of the eighteenth century. The celebrated collection as sold in 1949 is surveyed in an undated manuscript booklet included in the Rockingham papers: *A Short Catalogue of the Very Fine Collection of Roman Large Brass, etc. of the late Charles Marquess of Rockingham, taken at Lord Fitzwilliam's house in Grosvenor Square*, by John Thane. The coins in all metals of the Museo dei Padre *Certosini* (see the introduction to the Christie's Catalogue 30 May 1949) apparently were purchased by the Holy Roman Emperor, about 1715 (also E. Babelon, *Traité des monnaies grecques et romaines* I, 174). Lord Malton acquired of Antonio Borrioni in 1748 a priced list of the Carthusian Collection of coins, gems, and minor antiquities in bronze and rare marbles, prepared by Borrioni and Francesco Palazzi. Notes inserted in this second book, in Lord Malton's hand, state that the large bronzes and medallions which interested Lord Malton were acquired by the Emperor. The presence of this book in the Rockingham papers no doubt gave rise to the belief, stated in the 1949 Christie's Catalogue, that coins were acquired also, but Borrioni appears merely to have retained the priced catalogue as souvenir of an earlier transaction.

Other papers in the collection indicate that Lord Rockingham did acquire a number of coins from the collection of the Abbé Visconti in June 1774, and several of these are identified as pieces in the 1949 Sale. Lord Rockingham also purchased Roman bronzes from other sources in Rome and London.

The collection of vases had remained entirely unknown until its sale at Christie's on July 15th, 1948. At that auction the British Museum bought nos. 5, 8, 17, and 20 (1948.10-15.1-5), of which no. 8, a column-krater by Lydos, is the most important (1948.10-15.1; Beazley, *Development of Attic Black-Figure*, pl. 15, 1; *ABV*, 108, no. 8). Kevorkian obtained the Pontic oinochoe no. 6. The black-figured band-cup, no. 13,2, went to Sydney (48.256), another black-figured cup, no. 16,1, went to University College, Christchurch (N.Z.). Miss Richter acquired the Attic lamp no. 22,5. The heaviest buyer was the late Mr. W. R. Hearst who successfully bid on nos. 3, 9, 10, 11, 12, 15, 18, and 19. These vases, however, never reached San Simeon and were after the death of Mr. Hearst resold at Parke-Bernet's, in New York, on December 7th, 1951. In the following concordance the sequence is that of the second sale, with the numbers of the first sale in parenthesis. No. 1 (= 15,2); no. 2 (= 19,1); no. 3 (= 15,1): Kings Point, Great Neck, Long Island, Christos Bastis, illustrated here pl. 113, fig. 38; no. 4 (= 19,2): Maplewood (N.J.), Joseph V. Noble, pl. 115, figs. 44 and 45, in the manner of the Pan Painter, imitating his small pelikai (cf. Beazley, *Paralipomena*, 2110); no. 5 (= 18): Kansas City (red-figured cup by the Euaion Painter, *Paralipomena*, 443, 462, 1384, 1437); no. 6 (= 11): Havana, El Conde de Lagunillas, illustrated here pl. 112, fig. 43 (assigned by Beazley to the Class of Vatican G. 47, *ABV*, 430, no. 26); no. 7 (= 3); no. 8 (= 12): Kings Point, Christos Bastis, pl. 112, figs. 34 and 35, amphora with the earliest known signature of the potter Andokides (*ABV*, 253, 1; *Ancient Art in American Private Collections*, pl. 76, no. 254); no. 9 (= 10): Omaha (Neb.), hydria by the Affecter (*ABV*, 247, no. 93); no. 10 (= 9): New York, Kevorkian, hydria in the manner of the Antimenes Painter (*ABV*, 277, no. 7). Twenty-eight other vases, mostly South Italian and Etruscan, were sold on the premises on July 7, 1948. These were given in 1949 by J. B. Morrell, J.P., to the City Art Gallery in York.

West Wycombe Park (near High Wycombe, Buckinghamshire; Sir John Dashwood and the National Trust. Open).

Beneath the West Portico, designed ca. 1765 by R. Adam and Nicholas Revett (of Athenian fame), is an important late second century A.D. small child's sarcophagus, broken but complete and showing scenes of Erotes enacting the Meleager cycle (pl. 107, fig. 13). The short sides include the scene of the Eros-Meleager spearing the boar and a seated Psyche as one of Meleager's sisters mourning at a conical tholos tomb. This important sarcophagus, weathered but totally unrestored, adds another example to the small group with similar scenes. These are the sarcophagus front in the Louvre (Robert, *Sark.-Rel.* II, II, 358f, no. 307) and the entire sarcophagus, with short sides different from the Dashwood example, known only from Seicento drawings in the Dal Pozzo-Albani collection in the Royal Library at Windsor (Robert, no. 308, pl. 98; Windsor VIII, 70 = *Cat.* nos. 8774f, and IV, 49 = *Cat.* no. 8452). British Museum, Dal Pozzo-Albani (Franks) no. 424 is a view of the right, short side of another of this class of sarcophagus. The scene is Eros seated mourning before a cinerarium on a base (= Wolfegg, Fol. 46 [above] d; Robert, *RM* 16 [1901] 237).

WILTON HOUSE (Part I, p. 148f).

As indicated in Part One the marbles at Wilton have perhaps never received the full measure of attention they deserve because of the disappointment usually felt in the number of false antiques and heavily restored pieces. Besides the portraits published by F. Poulsen (*Portraits*, 7ff), there are a number of marbles in this vast collection which are important and interesting, and which have never been published with photographs. Five of these are included here.

The colossal Herakles in the Entrance Hall (Michaelis, no. 1c; Part I, p. 149, pl. 45, fig. 28), the Giustiniani Herakles now in the Front Hall of the Metropolitan Museum (Richter, *Cat.*, 1954, 73f, no. 121, pl. XCIII), and a third replica in the Louvre (Photo Giraudon no. 1183-2574; Reinach-Clarac, p. 152, no. 7) are later Antonine adaptations of a Pergamene work, perhaps owing their popularity to Commodus' cult of Hercules (see *JRS* 13 [1923] 100ff, and cf. the Conservatori bust of Commodus: Stuart Jones, *Cons.-Cat.*, 139ff, pl. 48). Breaks on the bodies of the Wilton and Metropolitan Museum examples indicate they should be restored as the Louvre copy, with Telephos in the left arm and the Hind beside the support against the left leg. The head of the Wilton statue is set wrongly, towards the left shoulder instead of the right. All three statues are characterized by the exaggerated swing of the left hip, which seems more sensible when Telephos is present as a counterbalance. Michaelis noted the stylistic resemblance between the Wilton statue and the Farnese Hercules. Like the Farnese Hercules, the Wilton-Louvre type may be an Antonine double-sized adaptation of a Pergamene work, a type created to suit the colossal architecture of Roman baths and palaces. The Lysippic-Farnese Hercules type is also found in sculptural and medallic grouping with Telephos and the Hind (Smith, British Museum *Cat.* III, 92f, no. 1728, fig. 13; Gnecchi, *I medaglioni romani* II, pl. 53, no. 2; Gabriel, *Masters of Campanian Painting*, 30, esp. note 6). The ultimate fourth century B.C. prototype probably had the apples as attribute in the left hand. In the fourth century figure the club probably rested on the right shoulder, as in the Lansdowne Herakles and the Conservatori Commodus; in the Pergamene work it was found at the right side, as the ancient portions of the Louvre copy and the breaks on the right thigh of that at Wilton indicate. (For possible fourth century prototypes, see under Copenhagen, Ny Carlsberg nos. 253, 258: F. Poulsen, *Cat.*, 1951, 190f, 193.)

Michaelis no. 180 (pl. 104, fig. 1) has already been discussed under ALTHORP HOUSE, no. 4 (above) and in connection with BROCKLESBY PARK, no. 98, as a replica of the Polyclitan Pan type, best known from the two statues in the British Museum signed by the freedman M. Cossutius Cerdo and discovered in 1773 by Hamilton at Monte Cagnolo (Smith, *Cat.* III, nos. 1666f). The left horn, nose, and bust of the Wilton head are restored. Michaelis no. 107 (pl. 104, fig. 5), with the tip of the nose and bust restored, has long been included among the replicas of the type identified with varying degrees of conviction as the Pothos of Skopas (Arias, *Skopas*, 133, B-I; Bulle, *Jdl* 56 [1941] 121ff, esp. 147; Picard, *Manuel*, III, 653ff, esp. figs. 283f; Richter, *AJA* 59 [1955] 78). Since the head, now in the Wilton Stables, has not been shown in a photograph before, it has not been cited as a particularly fine, if somewhat dry copy, in excellent condition. The technique of cutting the wavy hair is, in fact, markedly superior to the Berlin and British Museum heads (BrBr, 616f, figs. 1-6). No. 144 (pl. 105, fig. 6), the Hermes Kriophoros, is one of the most oft-published marbles in the collection but again has never been photographed (F. P. Johnson, *Corinth* IX, 28f, under the fragmentary replica no. 21; H. Cahn, *Studies Pres. to D. M. Robinson* I, 562; Picard, *Manuel* II, I, 50; Lippold, *Handbuch*, 88). It was impossible to include the full figure in the photograph because of its position in the Stables, surrounded by other sculptures, but what is seen gives ample confirmation that the figure is archaistic, rather than a direct copy of the Hermes described by Pausanias (9.22.1) as a work of Kalamis in Tanagra.

To students of Roman art the most important group of monuments are the five late second and third century sarcophagi (Michaelis nos. 60, 111, 129, 143, and 155) now in the Courtyard and originally from the *columbarium* discovered on the Via Appia before the Porta San Sebastiano in 1726. Their only fully illustrated publication is in pls. 27J to 30B of Piranesi's *Antichità romane*, Vol. III (published in 1750-1756). Their condition is excellent, typical of sarcophagi discovered in Roman columbaria and sepulchral chambers since the fashion of sawing off and walling up the fronts of sarcophagi ceased at the end of the Seicento. While placed outside at Wilton, they have enjoyed a great measure of protection from the house surrounding

and have not suffered so much as some of the marbles scattered about the Wilton House gardens. No. 129 (pl. 107, fig. 15) is a particularly attractive mid-third century strigilar sarcophagus, showing a Roman version of Meleager and Atalanta sacrificing after the chase, with the boar's head beneath and an attendant behind. The Roman Dioscuri, with spears and *parazonia*, stand at the corners. The faces of Meleager and Atalanta are roughened, to receive the features of the deceased husband and wife at a later date, probably in paint and plaster. Finally, No. 111 (pl. 111, fig. 31), an ordinary oval, striated sarcophagus with lions tearing an ibex and a boar on the curved sides, is striking because of the superbly plastic rendering of the mid-third century features of the deceased husband and wife.

Withington Hall (Chelford, Cheshire).

A Roman fluted sarcophagus, with the Three Graces or Charites in usual scheme on the front centre, was noticed by Prof. T. B. L. Webster in the collection of the late J. Baskrvyle-Glegg, Esq., and was published by Prof. G. Rodenwaldt (*JRS* 28 [1938] 60-64, pls. 6-8). The sarcophagus was brought from Italy by Mr. Baskrvyle-Glegg's grandfather or great-grandfather in the last century.

Woburn Abbey (Part I, p. 150).

As addition to the summary and bibliography of the collection given in Part One, the following presents an outline of the major ancient sculptures according to A. H. Smith, *A Catalogue of the Sculptures at Woburn Abbey*, 1900, with the Michaelis numbers in brackets immediately following. Many of the gaps in Smith's numbering are represented by Neo-Classic sculptures, of which a good number are outstanding works of art in their own right.

No. 5 (Michaelis 58) is the Phaedra and Hippolytus sarcophagus front (Robert, *Sark.-Rel.* III, I, 290, no. 156; García y Bellido, *Esculturas Romanas*, 244ff, no. 262). No. 10 (61) is the sarcophagus front with triumphal procession of Dionysos and Ariadne (F. Matz, "Eine bacchische Gruppe," *AbhBerl* [1952] no. 5, p. 389f; Pietrogrande, *BullComm* 60 [1932] 196ff). No. 13 (63) is an Antonine portrait of a boy with curly hair (*EA* 3141), and No. 14 has been identified as a portrait of Marcus Aurelius (*EA* 3154; Wegner, *Herrscherbildnisse*, 209). No. 24 (81) is another sarcophagus front, with the Calydonian hunt (Robert, *Sark.-Rel.* III, II, no. 224, pl. 76), while No. 32 (86) is a sarcophagus front with the myth of Selene and Endymion (Robert, III, I, no. 79, pl. 22; Hanfmann, *Season Sarcophagus* II, 173 [431]; ca. A.D. 220-240). No. 40 is a disc with bearded Bacchic head sporting Ammon horns (F. Poulsen, Ny Carlsberg *Cat.*, 254 under no. 383). No. 41 (181) is a bust of a Roman lady, traditionally but inaccurately designated Matidia, niece of the Emperor Trajan (*EA* 3156f; Wegner, *AA* [1938] col. 302), and No. 48 (101) is the massive marble krater from the Villa Lante (*EA* 4949, *left*). Like its heavily restored counterpart at Warwick Castle (see above), this bowl comes from Hadrian's Tiburtine Villa (Winnefeld, *Villa des Hadrian*, 167). No. 51 (104) is an oval, fluted sarcophagus, featuring a barrel in the middle and lions tearing a boar on the ends (Smith, Brit. Mus. *Cat.* III, 339, under no. 2340). No. 54 (210) is a statue of Athena, originally connected by Furtwängler with the school of Praxiteles (*EA* 2390; Lippold, *Vat.Cat.* III, I, 185f; idem, *Handbuch*, 311).

No. 56 (66) is an important bust of Trajan (*EA* 3142; Gross, *Bildnisse Traians*, no. 49, pl. 166), while No. 57 (107), once described as a "youthful but characteristic" representation of the same Emperor (Smith), is a "shocking" pasticcio (F. Poulsen, *EA* XI, 36): forehead and brow from a Trajanic head, the face Augustan, and the bust Hadrianic (also Gross, 90, no. 50). No. 59 (110 and early history) is another sarcophagus front with Meleager's hunt (Robert, *Sark.-Rel.* III, II, no. 233, pl. 80; Hahland, *JOAI* 41 [1954] 60). F. Poulsen identified No. 60 (109), the supposed bust of Hadrian or Aelius Verus, as a head of a Roman of the Hadrianic period (*EA* 3145f). No. 61 (111) a cult statue of Minerva, is particularly interesting by virtue of its having been found at Sibson in Northamptonshire (*Archaeologia* 32 [1847] 13, pl. 4; Reinach, *Rép.Stat.* II, 292, no. 9). No. 63 (77) is a bust of Septimius Severus, of which the head alone is antique (*EA* 3143), and No. 64 (259), head of a youth, has been dated to the period of Gallienus (*EA* 3167ff). An important portrait at the very end of the Hellenistic ruler series is No. 66 (215), the head of Ptolemaios II, son of Juba of Mauretania (A.D. 23-40; F. Poulsen, *EA* 3161-3164; idem, *Symb.Osl.* 3 [1925] 8ff, figs. 13-16; text to Arndt-Bruckmann, nos. 867f; *Archaeology* 8 [1955] 16f). No. 71 (117), Achilles on Skyros, belongs to the group of sarcophagus reliefs from the Campidoglio via the Villa Aldobrandini, Frascati (Robert, *Sark.-Rel.* II, 48, 221, no. 34, pl. 19; Kenner, *JOAI* 35 [1943] 51ff, fig. 26), while No. 74 (71) is

a fragment of a similar subject (Robert, *Sark.-Rel.* II, 54, no. 41, pl. 20).

An unusual item in the Sculpture Gallery is No. 84 (128), the bronze terminal figure of a satyr, a late Hellenistic masterpiece from Pompeii (Reinach, *Rép.Stat.* II, 523, no. 4; Burlington House 1946, *Greek Art*, no. 180, pls. 68f). There are a number of interesting cinerary chests in the collection: e.g. No. 87 (186B), with scene featuring two boys supporting a wreath and cocks pecking at a lizard below (Lehmann and Olsen, *Dionysiac Sarcophagi*, 30, note 61). Among the numerous fragments of architectural enrichment, No. 91 (189), a small figured capital of third century A.D. workmanship, is outstanding. On the four sides appear Dionysos, Satyrs, and other related figures. No. 107 (115), bust of a child, appears in *EA* 3147f, work of the third century A.D. The Parian marble torso of Aphrodite is one of the artistic gems at Woburn (No. 109 [141]; Burlington House, *Greek Art*, 1946, no. 152, pl. 40f). It is a later modification of the Cnidian Aphrodite, at one time bearing a resemblance to the Medici Venus heightened by restoration (Felletti Maj, *ArchCl* 3 [1951] 61f, no. 16 in list of Medici Venus replicas). No. 113 (144) is one of the most impressive of the Campidoglio-Villa Aldobrandini sarcophagus fronts—the triumphal procession of Dionysos and Herakles (Lehmann and Olsen, *Dionysiac Sarcophagi*, 71; F. Matz, "Der Gott auf dem Elefantenwagen," *Abh-Berl* [1952] no. 10, 720; idem, *Festschrift für C. Weickert*, 42). To the published list of Renaissance and later drawings may be added the "Botticelli" (Francesco di Giorgio) drawing in the Louvre (Photo Alinari, no. 1402). No. 114 is one of the two Assyrian reliefs, from the palace of Ashurbani-pal at Nineveh (ca. 650 B.C.) featuring the king and three warriors in a war chariot (Weidner, *Die Reliefs der assyrischen Könige*, 3ff, fig. 1).

The other is No. 123, ca. 850 B.C., showing a bearded figure, a eunuch, and a man in a lion's skin walking right (Weidner, pp. 6ff, 154ff; *EA* 3166; Gadd, *The Stones of Assyria*, 151f).

No. 116 (174) is a bust of a Roman of the Antonine period (*EA* 3155; *Syria* 17 [1936] 58), while 117 (85) is a head of Antoninus Pius himself (*EA* 3144). No. 122 (148) is the sarcophagus front with Apollo, Athena, and seven Muses (Reinach, *Rép. Rel.* II, 541, no. 3). The inscription, besides being fragmentary, has been further damaged by the restorer's reworking of the surface. No. 124 is a bust which has been named Diadumenianus, Herennius Decius (*EA* 3171-3173), or a youth of the period of Alexander Severus (*RM* 54 [1939] 276). No. 140 (165) is the head of a Roman lady of the Augustan period (*EA* 3152f), and No. 143 (147), the other large marble krater, with frieze of Bacchic genii, from Villa Adriana (Reinach, *Rép.Rel.* II, 540, no. 1; Winnefeld, *Villa des Hadrian*, 167). In No. 145 (59) we have the second of several heads designated as Marcus Aurelius (*EA* 3140; Wegner, *Herrscherbildnisse*, 209; see above, No. 14). No. 146 (219) is the sarcophagus with scenes of Achilles before Troy which was sketched by eighteenth century travellers to Asia Minor walled up in the Gate of the Persecution at Ephesus (Robert, *Sark-Rel.* II, 57, pls. 22f; III, III, 549; Eichler, *JdI* 59-60 [1944-45] 129).

A series of busts follow: No. 147 (191), a bust of an elderly woman of the fourth century A.D. (*EA* 3158f); No. 148 (198), another portrait of Antoninus Pius, of heroic size (*EA* 3160; Wegner, *Herrscherbildnisse*, 153; see above, No. 117); No. 149 (257), the head named Karneades by Michaelis and Furtwängler (*Ueber Statuenkopieen*, 570, pl. 8) but not by F. Poulsen (*EA* XI, 36; cf. idem, Portraits, no. 20 = Holkham Hall, no. 51); No. 154, a Julio-Claudian youth (*EA* 3170); and No. 155 (143), a head of an elderly Roman of the late Republic on an alien toga contabulata bust (*EA* 3149-3151). No. 156 (201) is a second century A.D. statue of Dionysos, copied from a rare late Praxitelean type (Furtwängler, *Ueber Statuenkopieen*, 570, pl. 7; Muthmann, *Statuenstützen*, 74), and No. 157 (202) is the Neo-Attic relief of Silenus and two satyrs similar to the example let into a statue base in the Vatican (Sala dei Busti, no. 326a: Amelung, *Vat.-Cat.* II, 520ff). No. 206 (132), the cinerarium of Trebellia Melpomene, dedicated by her freedmen and a woman, has a lid (belonging) with anvil, hammer, and tongs in the pediment. The urn belongs to the Flavian or Trajanic periods (*CIL*, VI, no. 27591; *NumCirc* 61 [November 1953] col. 451; Vermeule, *Anc. Dies and Coining Methods*, 19). The last two marbles of note were in the West Hall when A. H. Smith's *Catalogue* was compiled: No. 251 (125) head of a daughter of Niobe, set on an antique bust, and No. 253 (222), a bust of a child of the second century A.D. (*EA* 3165).

Like that at Wilton House, the collection is rich in false and heavily restored portraits, many given famous names.

The Duke of Bedford's sixteen vases, of which

two are listed under London in Beazley *ARV*, are actually in Woburn Abbey, where they are exhibited on ledges high on the wall. Some of them were bought at the Cawdor sale of 1800. (*Skinner and Dyke, June 5-6, 1800*, nos. 52, 53, 57, 66, 77, 79, and 84). The collection consists of one Corinthian aryballos, eight Attic red-figured vases, three Apulian red-figured vases, two Paestan bell-kraters by Python, one Campanian neck-amphora of the Owl-Pillar Group, and a Campanian black-glazed neck-amphora.

BRYN MAWR COLLEGE
THE METROPOLITAN MUSEUM OF ART

Some Inscribed Iron-Age Vases from Cyprus[1]

I. THE VASES

VASSOS KARAGEORGHIS

PLATES 118-119

MYRES, in his *Handbook of the Cesnola Collection* (pp. 58ff), distinguished a group of Cypriot vases of the "Early Iron Age" which he ascribed to what he called "Red Bucchero Wares." In defining these wares, he states that "they range in time from the beginning of the Iron Age—where they succeed the wheelmade Red Ware of the Late Bronze Age—down to the eighth or seventh century, by which time they appear to have been as completely superseded by the Painted Red Ware. . . ." He distinguished in this ware two groups: a) the "True Bucchero with red clay throughout" which he described as follows: "The standard fabric has a bright red clay of the same colour throughout, capable of receiving a high polish"; and b) the "Red Bucchero fabric with painted ornaments on a lighter clay."

The fact that some of these vases bear inscriptions makes them especially interesting, and they are often referred to by historians and epigraphists. Gjerstad, in his classification of the geometric pottery of Cyprus, has included this group,[2] but without any references to Myres' "Red Bucchero Wares."

After Myres, the first to deal with these vases, as far as I know, was S. Casson.[3] He expresses his doubts in dating Myres' "Red Bucchero Ware," but suggests as a possible date the period ca. 1000-800 B.C. Hill[4] also deals with these vases in connection with the inscribed jug (Myers, *Handbook*, No. 479) and says that "these wares range from the beginning of the Iron Age (at the earliest about 1200 B.C.), down to the 8th or 7th century B.C." For this particular inscribed vase, he remarks that "there is no reason, so far as the inscription is concerned, to regard it as earlier than the eighth."

The most recent reference made to these vases is by T. B. Mitford.[5] In discussing the earliest evidence for the Cypriot syllabary in the Geometric period, he refers to the "Bucchero vases in New-York" which appear to belong rather to Early than to Late Geometric times. On p. 154, he refers to the letters of the inscription on jug No. 479 as "the earliest alphabetic inscription in the epigraphy of Cyprus."

From the above references, it appears that these vases are quite important for the epigraphy of Cyprus; and a somewhat more careful study of them is indicated instead of following those who have accepted Myres' dating (since 1914) without question.

The reason why Myres has called this ware "Red Bucchero" is, I believe, the presence of the vertical grooves on craters Nos. 482-483 (p. 60), which in fact are amphoriskoi. No other vase, however, from his Red Bucchero group has a groove on the body. The similarity of these craters to the equivalent shape in the Black Bucchero (Black Slip Ware in the Swedish Expedition's terminology) may have induced Myres to consider them contemporary.

There are seven amphoriskoi in the Cyprus Museum which have vertical grooves on the body in the fashion of the Bucchero Wares. One of them is mentioned by P. Dikaios in his *Guide* and rightly described as Red Slip Ware.[6] All seven are almost identical: biconical depressed body, short wide

[1] My wife and I should like to thank Dr. P. Dikaios, Curator of the Cyprus Museum, for giving us permission to publish the jug from the Paphos District Museum and to make references to unpublished material in the Cyprus Museum. Thanks are also due to Mr. G. G. Pierides of Nicosia for permission to publish jug No. 176 of his private collection. Prof. E. Gjerstad has read the manuscript of the first part of this paper and made valuable suggestions and corrections, for which we are most grateful. We should also like to express our thanks to the Director of the Metropolitan Museum of Art for the supply of the photographs of the objects in the Cesnola Collection and for permission to publish them. The Director of Antiquities, Mr. A. H. S. Megaw, has kindly corrected the phraseology of the text and made valuable suggestions.

[2] E. Gjerstad, *Swedish Cyprus Expedition* (hereafter *SCE*) IV (Stockholm 1948) 80f.

[3] S. Casson, *Ancient Cyprus* (London 1937) 132.

[4] G. Hill, *A History of Cyprus* I (Cambridge 1940) 102f.

[5] *Archaeology* 5 (1952) 151-156.

[6] *A Guide to the Cyprus Museum* (2nd ed., Nicosia 1953) 58, No. 262, inv. No. B 1848. The other six are inv. Nos. B 1845, B 1846, B 1847, B 1849, 1933/XI-29/3, 1934/III-21/2.

cylindrical neck, flat rim, handles from rim to shoulder, low foot. Myres' No. 483 has a higher foot and a taller neck. Moreover it has black painted bands around the neck; but it is essentially of the same ware as our seven amphoriskoi in the Cyprus Museum: hard reddish clay, with a thin lustrous slip of the same colour. In the Cyprus Museum there is a kylix[7] of exactly the same technique as the crater No. 483 in the Cesnola Collection, i.e., with black painted bands below rim and on foot while the lower part of the body is vertically grooved. In the Cyprus Museum there is a jug similarly grooved and with black painted bands around the upper part of the body (Inv. No. B1884). Similar jugs, without black painted bands, exist in the Cyprus Museum (Inv. Nos. B1867; 1933(XI-29/4). In shape they are exactly paralleled by jugs of the Red-on-Black II (IV) and Bichrome IV Wares.[8] There is another juglet of this class in the Cyprus Museum (Inv. No. B1293) with ovoid body vertically grooved in the "Bucchero" manner, very short narrow neck, trefoil mouth, handle from rim to shoulder, and base ring.

A close examination of all the vases mentioned above will show that they belong to the same category. Their clay is hard and well baked, light red or brown throughout; a thin lustrous slip of the same colour as that of the clay covers the surface. Occasionally (but frequently in the Red Slip I Ware, as we shall see below), the surface has an additional varnish achieved with the nail of the potter or with another light instrument. The strokes of this varnishing are vertical on the neck and horizontal on the body. This ware has been called Red Slip by the Swedish Cyprus Expedition and has been rightly associated with the Black-on-Red wares. The particular class which we have just described above, belongs, considering the Swedish classification of shapes, to their Red Slip II Ware. To this ware we may add vases without the vertical grooves on the body: jugs, as illustrated in *SCE* IV, fig. XLIII; bowls, as in *SCE* II, pl. CXXVI. Turning to the vases in the Cyprus Museum which by their shapes are attributable to the Swedish Red Slip I Ware, one can distinguish its better quality: the clay is soft and buff in colour with a thick lustrous and often varnished slip (see above). As a ware, it is quite distinct from Red Slip II, but there are shapes common to both. We must bear in mind, however, that the continuation of earlier types in subsequent periods is very characteristic of Cypriot pottery.[9]

Following Gjerstad's chronology,[10] Red Slip I Ware begins in the Cypro-Geometric III period and Red Slip II in the Cypro-Archaic I period; but as stated above and as shown in Gjerstad's diagram,[11] Red Slip I Ware continues in the Cypro-Archaic period. There is a jug in the Cyprus Museum (Inv. No. B 1873) with tapering neck and trefoil mouth[12] which is of the Red Slip II Ware as regards the clay; but in 1953, in an unpublished tomb at Philia, I have found a quite similar jug of the Red Slip I Ware in a context which included among other wares, Grey Polished II (IV) and White Painted IV. In Amathus tomb 13, a number of these Red Slip I Ware vases has been found in a context which is dated to the Cypro-Geometric III period (*SCE* II, p. 83).

There are of course, a very few examples of Red Slip Ware as well as of Black-on-Red Ware in the Cypro-Geometric II period,[13] but these are importations from Syria. The Cypriot Red Slip Ware begins in the Cypro-Geometric III.[14]

I shall now examine each of the Cypriot vases of which the inscriptions are discussed in the second part of this paper, and try to place each, as far as possible, in the classification and chronology of the Swedish Cyprus Expedition.

1. Plate 118, fig. 1 (*Handbook of the Cesnola Collection*, No. 474; *Atlas* II, CXLII, 1063).

As we have seen already, this shape occurs both in the Red Slip I and II Wares, but as a shape, it belongs undoubtedly to the Red Slip II (IV) Ware of the Cypro-Archaic I period (700-600 B.C.)[15] (cf. *SCE* IV, fig. XLIII, 10).

2. Plate 118, fig. 2 (*Handbook of the Cesnola Collection*, No. 480; *Atlas* II, CXLII, 1062).

Red Slip II (IV) Ware jug (cf. *SCE* IV, fig. XLIII, type 3), but with a less oblong body. This shape belongs again to the Cypro-Archaic I period and appears also in other wares of the same period, e.g., Plain White IV Ware[16] etc. In the

[7] *ibid.* 58, no. 261, inv. No. B 1850.
[8] *SCE* IV, figs. XXXIX, 15a and XXXIV, 16b respectively.
[9] cf. diagram in *SCE* IV, 202.
[10] *ibid.* 193.
[11] *loc.cit.*
[12] *ibid.*, fig. XLIII, 10.
[13] *ibid.* 188 (diagram).
[14] *BASOR*, 130 (1953) 22f.
[15] cf. similar shapes in other wares, e.g., Bichrome-Red I (IV) (*SCE* IV, fig. XLI, type 11); Bichrome IV (*SCE* IV, fig. XXV, Nos. 19, 20).
[16] *SCE* IV, fig. XLIV, type 1.

Cypro-Geometric III period, a similar type occurs, but with oval depressed or globular body, funnel-shaped rim and well-pronounced neck-ridge (cf. Black-on-Red I (III) Ware in *SCE* IV, fig. xxv, 3a, 3b).

3. Plate 118, fig. 3 (*Handbook of the Cesnola Collection*, No. 481; *Atlas* II, cxlii, 1064).

Black-on-Red IV Ware juglet. The shape is of the Cypro-Archaic I period[17] with the characteristic neck-ridge and the flat out-turned rim.

4. Plate 119, fig. 4. Paphos District Museum No. 569.

This is an accidental discovery from the region of Polis tis Chrysochou (ancient Marium): White Painted III Ware jug[18] with the characteristic horizontal row of small concentric circles of the beginning of the Cypro-Geometric III period, ca. 850-700 B.C.

5. (A. P. Cesnola, *Salaminia*, 2nd edit., London 1884, 229, fig. 265.)

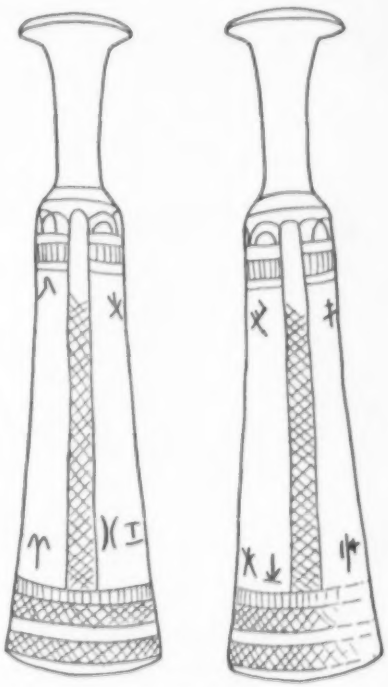
This jug is illustrated by a drawing in the above publication and in a group photograph in A. P. Cesnola's album *Cyprus Antiquities*.[19] If the drawing in the *Salaminia* is correct, this vase is a jug with a globular body, round base, splaying rim, handle from neck to shoulder. The decoration consists of vertical concentric circles on either side of the body and, below the handle, a painted inscription in the Cypriot syllabary with a star ornament above it. We cannot see from either illustration whether this vase is of the White Painted, the Bichrome or another ware, but by its shape and decoration we may associate it with wares of the Cypro-Geometric III and Cypro-Archaic I periods. Though its base is rounded, in other respects it is similar to the Bichrome III jugs illustrated in *SCE* IV, fig. xxii, 6a and 6b, but has more affinity with the Bichrome IV jug in *SCE* IV, fig. xxxiii, 6b, which is of the Cypro-Archaic I period. This dating is supported by the presence of the same inscription on No. 6 below.

6. Plate 119, figs. 5 and 6 (G. Pierides Collection No. 176).

This is a Bichrome IV jug, and its field is filled with concentric circles in the characteristic fashion of the Cypro-Archaic I period. The inscription is painted on the shoulder between the base of neck and the base of handle.

For parallel shapes cf. *SCE* IV, fig. xxxiv, 16b, and fig. xxxix, 14b. I think a date just after 700 B.C. would be suitable both for this jug and for No. 5.

7. Ill. 1 (*Handbook of the Cesnola Collection*, No. 1659. Illustrated in Cesnola *Atlas* III, cxli, 7a, b).



Ill. 1

An alabaster flask: Myres recognizes this as a vase of "characteristic Transitional Iron Age form" (*HCC*, 227f) and attributes it to the 10th or 9th century B.C. (526ff)

There is a striking similarity between the shape of this vase and the clay flasks of the Early Geometric period especially of the Cypro-Geometric I (1050-950 B.C.).[20] This form of flask dies out in the next period or develops into a different form.[21] The Cyprus Museum possesses a good number of such flasks all of which belong to the White Painted I or Bichrome I Wares. The decoration

[17] *SCE* II (1934-1935) pl. cxv, 7.

[18] *SCE* IV, fig. xix, 10.

[19] I have not been able to trace this vase yet, like many other objects discovered by the younger Cesnola.

[20] *SCE* IV, fig. v, 2, 6 and fig. vi.

[21] *ibid.*, fig. xvi.

of this alabaster flask consists of engraved horizontal bands of concentric semi-circles and horizontal and vertical bands of "cross-hatchings." The "cross-hatchings" are, of course, in the current repertory of the Cypro-Geometric I period, but not the concentric semi-circles, which we must seek at a slightly earlier period, in the Proto-White Painted Wares. The combination, however, of vertical and horizontal bands of decoration is paralleled by the decoration on clay vases of the Cypro-Geometric I period.[22] The Cyprus Museum possesses an alabaster of the same shape as the Cesnola alabaster.[23] Its decoration consists of engraved horizontal and vertical bands containing concentric semi-circles and latticed lozenges. There are also some few concentric circles in the field. And here we may note that the concentric circles appear in Cypro-Geometric II period and not in Cypro-Geometric III, as has been hitherto believed.[24] However, to quote Prof. Gjerstad's opinion (letter dated January 20, 1955), "the concentric circles on this flask have nothing to do with the concentric circles ornamentation on the Black-on-Red pottery, but represent a connection with the concentric circles ornaments of the Greek Proto-Geometric pottery. The tradition of that pottery is, to a great extent, surviving in Cypro-Geometric I, as you can see from my paper on the initial date of the Cypriot Iron Age." We must also consider the fact that decorating an alabaster vase is different from decorating a clay vase and we may allow the possibility that the engraver who was accustomed to make concentric semi-circles might make concentric circles as well, though it was not the current fashion of the period. The essential characteristics of the two alabaster flasks are the same and I will not hesitate to assign them both to the Cypro-Geometric I period (1050-950 B.C.)

8. (A. P. Cesnola, *Salaminia*, 2nd edit., London 1884, fig. 263.)

The drawing mentioned above suggests a White Painted Ware jar or stamnos of the Cypro-Archaic I period (ca. 700-600 B.C.), i.e. of the White Painted IV Ware class. This shape, though not recorded in the *SCE* under White Painted IV Ware, is common in Bichrome Red I (IV) Ware (cf. *SCE* IV, fig. XLI, 3); the handles are often vertical. The frieze of concentric circles around the body, and the short collar in place of the neck are characteristics of the Cypro-Archaic I pottery.

9. (*CVA* Brit.Mus. IICc, pl. v, 14; *Brit. Mus. Cat.* C991.)

The shape and decoration of this vase suggest the White Painted V Ware amphoras of the Cypro-Archaic II period (ca. 600-475 B.C.) cf. *SCE* IV, fig. XLVII, 1.

CYPRUS MUSEUM

II. THE INSCRIPTIONS[25]

JACQUELINE V. KARAGEORGHIS

THE above discussion suggests that some Cypriot vases bearing painted syllabic inscriptions belong to the "Dark Ages" of Cypriot history (10th-6th centuries B.C.). All the vases which will be mentioned, except two, have already been published, most of them in the old publications by the brothers Palma di Cesnola.[26] As the antiquity of their fabric had never been firmly stressed, the value of the inscriptions was greatly diminished, the more so as they happen to belong to the very period which is crucial for the transmission of the art of writing from the Late Bronze Age to the Iron Age.

It is generally assumed that the classical fifth-century form of the Cypriot syllabary derives, in part at least, from the more ancient local script usually called Cypro-Minoan or Cypro-Mycenae-

[22] *ibid.*, fig. v, 3.

[23] Inv. No. 1934/XII-1/1; P. Dikaios, *op.cit.* 125, 10. Also *Report of the Department of Antiquities, Cyprus* (1934) 16, pl. VI, 4.

[24] We see them on some White Painted II vases which I will publish in the next volume of the *Report of the Department of Antiquities, Cyprus* (1940-1948); these come from an Early Iron Age tomb at Lapithos.

[25] O. Masson and J. Chadwick have read the manuscript of this part of the paper and made suggestions and corrections for which I am most grateful.

[26] Luigi Palma di Cesnola, *Atlas of the Cesnola Collection of the Cyprus Antiquities in the Metropolitan Museum of Art* (Boston 1885, New York 1894-1903) II, pl. CLXII; III, pl. CXLI. Alexander Palma di Cesnola, *Lawrence-Cesnola Collection Cyprus Antiquities excavated by Major A. P. di Cesnola 1876 to 1879* (London 1881) pl. [XII]. Alexander Palma di Cesnola, *Salaminia*, 2nd ed. (London 1884) 226f.

an.[27] For this argument, the documents of the intervening centuries are of the greatest importance because they may help to elucidate the way this transition took place. It was believed that we actually possess very few inscribed objects of the Dark Ages, in fact only four, the chronology of which was not at all certain as mentioned above. The scarcity of inscribed documents in the Early Iron Age in Cyprus, and on the other hand the richness of the archaeological material of this period, suggested that the art of writing was not so widely spread at that time as it was before. This has been explained by postulating either illiteracy or the exclusive use of perishable writing materials. But the problem remained to determine whether the population of Cyprus really was illiterate in this period, and, if they were not, on what material they used to write.

The ancient Cypriots themselves, if we take their advice on that matter, so to speak, used to call all written documents *ἰναλαλισμενα* "anointed, painted texts,"[28] every sort of writing instrument an *ἀλειπτήριον* and a teacher a *διφθεράλοιφος*, all words derived from the stem **lei-* "to anoint." The last two words, which are recorded by Hesychius, were in use in later times when Alexandrian grammarians became interested in collecting them. But *ἰναλαλισμενα*, *διφθεράλοιφος* appear in earlier texts as well.[29] And the actual formation of both words proves that these are really ancient words of the old Greek dialect introduced to Cyprus: *ἀλίνω* differs from the common Greek verb *ἀλείφω* but corresponds to the original Indo-European formation from the stem **lei-*—(Sanskrit *linati*, Latin *linō*). *-αλοιφος* is formed with the gradation[o] of the stem, as anciently required in compound nouns (as in *ἀκόλουθος* corresponding to *κέλευθος*). Since their formation is ancient, they must have been in use at an early period. By the time of the Idalion text, the original meaning of *ἀλίνω*, "to anoint with liquid" was forgotten, and the engraver could incise *ἰναλαλισμενα* on bronze as well, because the verb came to mean only "to write," an evolution of meaning which proves that writing had been practised for some considerable time before the 5th century B.C. One may conclude from this fact of vocabulary: either that "Mycenaean colonists brought the word *ἀλίνω* with them from Greece," to quote J. Chadwick's opinion "where writing in ink was common, as it seems" (letter dated January 24, 1955); or that the Cypriots used to write in earlier times by means of a fluid substance to which *ἀλίνω* was especially convenient as was *γράφω* to describe the scratching of signs in Mainland Greece. But the form of the Cypriot signs, mainly shaped in angles and straight lines, suggests that originally they were cut on wood rather than written in ink, or possibly impressed on clay as in cuneiform and the Cyprus Bronze Age Script.

For this period, so obscure as regards the art of writing in Cyprus, the inscribed vases are the only witnesses which testify that the syllabary was in use.

If the inscriptions on the three Bamboula pithoi of the 12th century B.C. found by J. F. Daniel, are indeed in Greek and of a domestic character (but the brilliant interpretation of *ku-te* as *κύθε* "put the cover on" has been doubted by the author himself), this would mean that as early as the 12th century B.C., Greek syllabic writing was easily understood in everyday circumstances.[30] But while that is hypothetical, it remains possible that one day we may interpret some Bronze Age Cypriot inscriptions as Greek, and confirm that the syllabary was used to write the Greek language when it was first introduced to the island.

For the following centuries[31] three inscribed vases of Red Bucchero in the Cesnola Collection in New York[32] were held as the only, precious and often-quoted inscribed documents of the Early Iron Age.[33] Careful study has shown these vases to be Red Slip Ware, datable to ca. 700-600 B.C., a much later date than they were previously assigned.[34] With the age of these vases so much reduced, the hope that we possessed documents from the Dark Ages began to fade, for no trace of writing, other than these vases, had ever been noticed from the Early Iron Age. T. B. Mitford quotes as the most ancient syllabic inscriptions after the Bucchero vases a sixth century inscribed stele and

[27] S. Casson, *op.cit.* 72ff. J. F. Daniel, *AJA* 45 (1941) 258. O. Masson, *Orientalia* 23 (1954) 442f.

[28] O. Hoffmann, *Griech. Dial* I (1891) (hereafter H), No. 135 (Idalion Bronze) line 26.

[29] Respectively in the 5th century B.C. Idalion text and in a syllabic inscription from Polis, *JHS* 12 (1891) 330.

[30] J. F. Daniel, *AJA* 43 (1939) 103; *AJA* 45 (1941) 258.

[31] As for the Steatite vase (*HCC*, No. 1540) considered as one of the four inscribed documents of the Early Iron Age by Casson (*op.cit.* 91f), it had long since been admitted as No. 1525 in the *Répertoire d'Épigraphie Semitique* III (1916) without any hesitation.

[32] Myres, *HCC*, Nos. 474, 480, 481.

[33] cf. supra, part I, Nos. 1, 2, 3.

[34] *loc.cit.*

some inscriptions from Kouklia.[35] However, re-examination from the chronological point of view of other inscribed vases, including some unpublished and others already published by the brothers Cesnola, has proved that the Red Slip vases are not the only documents for the period (10th-6th centuries B.C.) and that some do date from the Early Iron Age. We shall now consider them individually.

1. (supra p. 353 No. 7) Alabaster vase in the Metropolitan Museum, New York. (present inventory 74.51.2450, accession number Cesnola Inscr. 1946 = Myres, *HCC*, No. 1659).

This is stated to come from the region of Maroni[36] and is now attributed to the Cypro-Geometric I period (1050-950 B.C.).[37] This vase of a venerable antiquity is enriched by an inscription of ten incised signs. The characters are placed at the top and at the bottom of each of the incised panels which adorn the body of the vase. Arranged as they are, they seem to contribute to the decorative pattern of the vase and may therefore have been incised at the moment when the vase was being made. But if we consider how old the vase is, we would expect the signs to be of a primitive character; in fact they do not look different from the classical types (ill. 1).

This makes us doubt whether the signs were actually incised at the moment of the fabrication of the vase, and perhaps we should suggest that they have been added afterwards. This vase has recently been retraced in the Metropolitan Museum, and a photograph was obtained, but it has not been possible to check whether the incisions of the ornaments and of the signs are by the same hand. The inscription may be read as:

pa-po-i-ke
e-u- { *no?* / *za-we-i-te* }

according to Myres (*HCC*, 526) who follows Deecke. But the sign for *za* is doubtful and considered as *no* by Schmidt and Meister, and as *xa* by Hoffmann.[38] Moreover it must be emphasized that the signs are arranged in a band around the vase so that neither beginning nor end can be ascertained, as has been observed by Hoffmann who suggested:

po-pa-ke-i
u-e-te-i-ve-xa

Many, and sometimes fantastic, have been the interpretations. Myres retained that of Deecke:

Πάφοιγε εὖ ζαφεῖτε

But it is wiser to doubt whether the text is Greek, even if the reading *pa-po-i* is correct (a city name remains more or less the same in any language), and to give up any attempt at interpretation, as Hoffmann does.

Some other inscribed alabaster vases can be traced; one is a sort of pyxis, the shape of which, as seen on a drawing in A. P. di Cesnola's *Salaminia*,[39] is undoubtedly Mycenaean or Submycenaean, but the vase is not mentioned in any other publication. Three others were once part of the L. P. di Cesnola Collection, but were already missing when the collection reached New York.[40] We can have only a vague idea of them from the second-hand information given in a supplement to the Cesnola Collection *Atlas*. Two of the vases appear to be cylindrical alabastrons with small, solid ears and flaring rims, perhaps not so different from the surviving vase in the Metropolitan Museum of Art. The other was, as it seems, a pyxis. Their form may recall Mycenaean or Submycenaean shapes. On two of them long inscriptions of fifteen and forty-six signs respectively, were placed round the vase in one or two lines, apparently in the same way as on our alabaster vase. The texts had been interpreted as Greek, but with very doubtful results to my mind.[41] It is worth noticing that similar alabaster vases bore inscriptions.

A clay vase, ornamented with a painted inscrip-

[35] T. B. Mitford, *op.cit.* 151; also *Actes du IIe Congrès International d'Épigraphie*. . . . (Paris 1953) 167, 170.

[36] L. P. di Cesnola, *Cyprus* (London 1877). I. H. Hall, *JAOS* 10 (1880) 215 (article published 1875). S. Birch, *TSBA* 4, 1 (1875) 21, 22. M. Schmidt, *Sammlung Kyprischen Inschriften* (1876) pl. XXI, 2. W. Deecke, *SGDI* I, 1 (1883) No. 56. R. Meister, *Griech. Dial.* II (1889) No. 56. O. Hoffmann, *op.cit.*, No. 124. L. P. di Cesnola, *Atlas* II, CXLII, 1053-54; III, CXLI, 7a and b.

Vase said to come from Salamis or Golgoi by Birch, from Marion by Schmidt, from Mari by Deecke, but from *Maroni* by Cesnola. It was admitted that Marion was between Mari and Maroni until Ohnefalsch-Richter proved that Marion was situated at Polis. It follows that all inscriptions attributed to Marium in old publications come in fact from Maroni or Mari, cf. *Catalogue, Cyprus Museum* (1899) 9.

[37] See part I, No. 7. [38] cf. supra, No. 34.

[39] A. P. di Cesnola, *Salaminia*, fig. 223.

[40] L. P. di Cesnola, *Atlas* III, Supplement "Cypriote inscriptions the originals of which have been lost," Nos. 15, 16, 17.

[41] Deecke, *op.cit.*, Nos. 77 (152 Hoffmann), 88 (161 Hoffmann).

tion, belongs also to the Early Iron Age, though of a later date:

2. (supra p. 353 No. 4) Jug in the Paphos District Museum, No. 569 (9th-8th centuries B.C.)

This vase was found in the region of Polis tis Chrysochou, the ancient Marium.

The inscription was painted at the same time as the linear decoration, with the same paint, and therefore by the same hand. It has been placed on the shoulder of the jug, on the front part, opposite the handle, as if to make it more conspicuous. Under each sign a motif of concentric circles has been added after the signs had been drawn (ill. 2).

Ill. 2

They may be read from left to right as *to?-ro-to?-?-si*; but there is some doubt as regards the first and third sign which is not read with certainty as *to*.[42] The next to the last sign is unknown; but it may be compared with the classical *so*. In some inscriptions, indeed, this sign has only one V in the upper part. That form seems to appear solely in the so-called Eteo-Cypriot inscriptions from Amathus,[43] but it is very likely, as O. Masson suggests, that it was equally used in the classical Greek inscriptions; also the shape of *so* with only one V may be mentioned here, but the sign of our inscription has a supplementary stroke in the upper part on the left. This sign may also be related to a Cypro-Minoan sign inscribed on a Mycenaean vase from Maroni.[44]

No sensible interpretation in Greek can be obtained from *to?-ro-to?-?-si*, and we wonder whether this text must be included in the group of Eteo-Cypriot inscriptions, the number of which has been increased by the probable addition of two texts found at Kouklia by T. B. Mitford.[45]

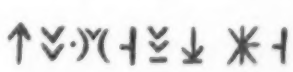
When compared with the rough and clumsy painted signs on Mycenaean vases, the writing on this jug is strikingly clearer and neater. The art of writing must have improved in the meantime by long practice. It is not by means of a brush or a pen that the signs have been given such linear forms as those which are characteristic of this jug, even if their shape is somewhat altered by the geometric tendencies of the time. The five characters on this vase are composed only of angles and straight lines, without any occurrence of a curve (for instance the sign for *ro* is not so angular in its later form). From this inscribed jug, we get once more the impression that the syllabary had long been written on hard material before it came to be painted. By the time of this jug, the writing was so perfect that it seems evident that it was widely used, as Miss Lorimer observed.[46]

These two early texts have been discovered accidentally, and it is highly probable that at least some others of the same period exist. The 10th-8th centuries were perhaps not so dark as they have been painted.

Some other inscribed vases have been attributed to the seventh century B.C.

3. (supra p. 353 No. 6) A jug in the G. G. Pierides collection No. 176 (Cyprus Museum photographs C.648-649).

This Bichrome IV jug has long been in the well-known collection at Larnaca. Its provenance is not known.



Ill. 3

The inscription (ill. 3) is read from right to left *ta-e-te-o-ta-ma . pi-ti*

It may be compared with the same inscription on a jug of the same style:

4. (supra p. 353 No. 5) Jug illustrated in A. P. di Cesnola's *Album* and *Salaminia*.[47]

Both jugs bear exactly the same inscription, placed near the handle and composed of the same characters, but in ornamentation and shape they differ in detail from each other. The identity of the writing and the similarity of the decorative pattern make it clear that the same painter deco-

[42] See Deecke, *op.cit.*, table of signs.

[43] O. Masson apud Schaeffer, *Enkomi-Alasia* I (1952) 405; cf. *Syria* 30 (1953) 83-88.

[44] F. H. Stubbings, *Mycenaean Pottery from the Levant* (Cambridge 1951) 47, No. 17.

[45] T. B. Mitford, *Actes du IIe Congrès International d'Épigraphie . . .*, 168. O. Masson, *Orientalia* 23 (1954) 445-446.

[46] H. L. Lorimer, *Homer and the Monuments* (London 1950) 124.

[47] A. P. di Cesnola, *Cyprus Antiquities*, pl. [XII] where the group photograph is reversed as result of misprinting. A. P. di Cesnola, *Salaminia* 229, fig. 265 where the same vase is drawn upside down with the inscription placed in the right way; in fact the inscription is normally placed on the vase standing on its base.

rated both vases and added the same inscription while they were still in his atelier.

The text has been understood as Greek.[48] The punctuation mark indicated clearly that it is composed of two different elements. *pi-ti* is rightly understood because, among the nine arrangements made from the two syllabic signs, this is the only one that makes sense. Moreover the same *pi-ti* occurs on another vase undoubtedly as *πῖθι*.[49]

The meaning of the first part is uncertain. The various interpretations of it given until now are not satisfactory:

τὰ ἥδεο δαμὰ πῖθι, or, *τὰ ἔθεο θαμὰ πῖθι*. (Sayce).

τᾶ⟨ς⟩ Ἐτεοδάμα⟨ς⟩· πῖθι, or, *τᾶ⟨ι⟩ Ἐτεοδάμα⟨ι⟩· πῖθι*. (Deecke).

τᾶ, Ἐτεοδάμα, πῖθι (Meister).

? *Ἐτεοδάμα· πῖθι* (Hoffmann).

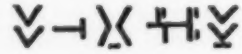
A personal name is likely to have been inscribed; but yet the name of a woman would be rather strange, unless the inscription is intended only for funeral purpose; and indeed it cannot be *Ἐτεοδάμα* because we expect to find **e-te-vo-ta-ma* in a text of the seventh century B.C. The stem *e-te-vo-* appears actually in two Cypriot inscriptions[50] and it is certain that the digamma between two vowels has been preserved down to a late date in the Cypriot dialect.[51]

If the text contains the name of a person, the potter must have received the order to make at least two vases for the same client. It is known also that at a later time one potter inscribed for his client[52] a whole series of vases dedicated to the Nymph of Kafizin before baking them.

5. (supra p. 354 No. 8) A Stamnos in the A. P. di Cesnola Collection.[53]

This is a seventh century stamnos decorated with encircling lines and concentric circles, which falls in the same group as the above-mentioned jugs. An inscription of five signs has been painted under one of the handles. But as the vase has not been traced, the text is known only from the drawing in *Salaminia*, which is not very reliable.

Among the characters, the fourth one given as *e* is not common and we do not know its value. No sensible translation can be obtained from *o-?-me-ta-pi*.



Ill. 4

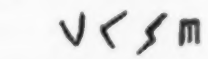
It is worth noticing that it is in the 7th century B.C. rather than in the 8th that the fashion of decorating geometric vases with inscriptions became popular. The script is skilful and elegant and the characters classical in shape except for a few examples. But the value of these texts on the geometric vases is reduced by the difficulties of interpretation.

Also of 7th century date are the three Red Slip Ware jugs of the Cesnola Collection in the Metropolitan Museum, the date of which has been lowered (cf. supra, Nos. 1, 2, 3). The inscriptions have been incised after baking and we do not know whether they have been engraved at the moment of fabrication or afterwards, by the owner of the vase.

6. (supra p. 352 No. 1) HCC, No. 474[54] (present inventory 74.51.1400).

Stated to come from a tomb at Citium.

The four signs on the shoulder of this vase have been interpreted without any hesitation as *ja-le-pe-mo*, but in fact three of the signs are extremely doubtful (ill. 5). The first from left to right looks like *sa*, not *ja*, the second is not a *le*, the fourth appears nowhere else for *mo*.



Ill. 5

7. (supra p. 352 No. 2) HCC, No. 480[55] (present inventory 74.51.1402).

Attributed to "Marium" (i.e. Maroni) by Hall, but to Citium (from the same tomb as No. 474) in the *Atlas*. The inscription on the bottom of the vase is arranged in a circle around the base and

[48] Sayce's interpretation in Cesnola's *Salaminia*, 229; Deecke, No. 135; Meister 166, No. 135; Hoffmann, No. 132.

[49] *SCE* III (1937) 634f, No. 6 (painted inscription on a vase from Vouni).

[50] Hoffmann, Nos. 46-47.

[51] Hoffmann, *op.cit.* 193.

[52] T. B. Mitford, "Kafizin and the Cypriot Syllabary," *Classical Quarterly* (1950) 101f.

[53] A. P. di Cesnola, *Cyprus Antiquities*, pl. [XII]. A. P. di Cesnola, *Salaminia*, 226f, fig. 263.

[54] Hall, *JAOS* 11, 2 (1885) 234, No. 9. L. P. de Cesnola, *Atlas* II, CXLII, 1063; III, CXL, 2.

[55] Hall, *op.cit.* 238. A. L. di Cesnola, *Atlas* II, CXLII, 1062; III, CXL, 7. Hoffmann, No. 179.

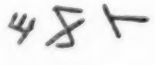
the beginning is difficult to determine. It has been read as *te-le?-pa-no-to-ta-ko* (ill. 6).

Ill. 6

The sign read as *le* by Hall and Hoffmann is doubtful. It is cited as *ro* by Myres, and remains obscure when examined on the photograph. Nevertheless, the inscription is surely in Greek and if the name is uncertain (Τηλεφάνω or Θηροφάνω), the second half is no doubt rightly understood as τῶ ταγῶ which seems to be the official title of the man.

8. (supra p. 353 No. 3) HCC, No. 481[56] (present inventory 74.51.1403).

Found at Citium. The three signs (ill. 7) are read as *ta-le-se* without any doubt. It must be a Greek personal name (Θάλης or Θαλῆς or Θάλης).



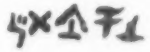
Ill. 7

These last two inscriptions with personal names which, unlike Nos. 2-5 above, were added after the vase had been finished, were intended to indicate either the name of the owner or dedicator of the vase. Another seventh century vase, an amphora from Marion,[57] has been inscribed with the name of the owner Κυπρόφιλος· Πύρρω, painted rather carelessly perhaps after the fabrication of the vase, which is of the Plain White ware.

And indeed, personal names seem very common on vases. When obscure texts are ultimately read, very often they are found to refer only to personal names. This is the case for:

9. (supra p. 354 No. 9) A jar in the British Museum C991 (inv.90.7-31.48).[58]

The inscription has been painted on the body of the vase in the same purple colour as the rest of the decoration, and is therefore by the hand of the vase-maker. The drawing of the characters, as given by Tubbs, is correct, but his interpretation is incorrect: the reading of the signs must be with R. Meister *o-na-si?-lo-se* and not *o-pa-ka-lo-se* (ill. 8).[59]



Ill. 8

The sign considered to be *pa* is *na*, as observed by Meister,[60] in a form where the vertical stroke reaches the upper horizontal line (not mentioned by Deecke in this form). The interpretation of the sign for *ka* as *si* is less certain, but Deecke has found some examples of simplified *si* on coins. *o-na-si-lo-se* is quite satisfactory, being a personal name Ὀνάσιλος not unfrequent in Cypriot epigraphy.[61] It is a nominative indicating the owner or dedicator of the vase or, more probably, the painter.

A general revision of inscribed syllabic documents would be most useful to Cypriot epigraphy. The above instances show that both the interpretation and the value of the characters can often be established with more accuracy. Meanwhile the revision of the chronology of inscribed vases has thrown some light on writing in the Dark Ages. Even if the testimony of the alabaster vase is not entirely trustworthy for the 10th century B.C., since it was not possible to examine the vase itself, the existence of inscribed documents anterior to the 6th century B.C. is now beyond doubt. For it has been shown that the number of inscribed Cypriot vases dating to the 9th, 8th and 7th centuries B.C. is by no means negligible.

NICOSIA

[56] Hall, *op.cit.* 236, No. 14. L. P. di Cesnola, *Atlas* II, CXLII, 1064; III, CXL, 1. Hoffmann, No. 127.

[57] *SCE* II, 858, No. 37, pl. CXXXI, No. 12.

[58] Tubbs, *JHS* 11 (1890) 38, 76. *CVA Brit.Mus.* II Cc, C991, pl. 5, no. 14.

[59] I owe all the information about the vase to O. Masson, who has examined it in the British Museum.

[60] R. Meister, *BPW* (1890) 1356.

[61] Meister, Nos. 60, 25, 147.

Victory in the Pentathlon

GEORGE E. BEAN

HAVING recently had occasion to review for this *Journal* Moretti's collection of Greek agonistic inscriptions,[1] I was led to reconsider the evidence on the old problem of the method employed to decide the victor in the pentathlon. Of this problem no satisfactory solution has yet, in my opinion, been proposed. The essential discussions are those by E. N. Gardiner in *JHS* 23 (1903) 54ff, supplemented in *JHS* 45 (1925) 132-4, and by J. Jüthner in *RE* s.v. "Pentathlon" (1937), though the latter does not actually offer any fresh suggestion.[2]

I. *Testimonia.*

I collect for convenience the most significant ancient evidence, in order to make clear the various conditions which an adequate solution has to meet.

1. The five events of the pentathlon are listed a number of times, notably by Simonides fr. 153 Bergk, Philostratus *Gymn.* 3, Eustathius on *Il.* 23.261 and Artemidorus *Oneirocr.* 1.57. The order of mention varies considerably, whether for metrical or other reasons, and no inference can be drawn as to the order of the events on the programme. It is however certain that the wrestling came last: see below, 4 and 6.[3]

2. Victory in three of the five events was sufficient for final victory: Schol. Aristides *Panath.* 3.339: *οὐχ ὅτι πάντως οἱ πένταθλοι πάντα νικῶσιν· ἀρκεῖ γὰρ αὐτοῖς γ' τῶν ε' πρὸς νίκην.* Similarly, the term *ἀποτριάζειν* was used of a victorious pentathlete: Pollux 3.151, *ἐπὶ δὲ πεντάθλου τὸ νικῆσαι ἀποτριάζαι λέγουσιν*, cf. Schol. Aesch. Agam. 171, *τριακτῆρος· νικητοῦ ἐκ μεταφορᾶς τῶν ἐν τοῖς πενταθλοις ἀποτριαζόντων ἐπ' ἐλπίδι νίκης.* Victories "in the first triad" are recorded in inscriptions, e.g. *IGR* 4, 1761 = Moretti no. 82: *νεικήσας . . . παίδ[ων] πένταθλον πρώτῃ τριάδι.* Cf. Gardiner, *JHS* 45 (1925) 134.

3. The pentathlon might be a tie: *SEG* 3 (1929) 335, in a victor-list: *ἀνδρῶν πένταθλον* II. Ἀλβείνιος [**Μεθοδικὸς Κορίνθιος**]· Ψυχικὸς Ἡρακλέωνος **Θηβαῖος συν[εστεφανώθη]**; cf. (7) below.

A number of individual incidents in connexion with the pentathlon are recorded, notably:

4. Xenophon *Hell.* 7.4.29 (the Eleians invade Olympia under arms during the games): *καὶ τὴν μὲν ἱπποδρομίαν ἤδη ἐπεποιήκεσαν καὶ τὰ δρομικὰ τοῦ πενταθλου· οἱ δ' εἰς πάλην ἀφικόμενοι οὐκέτι ἐν τῷ δρόμῳ, ἀλλὰ μεταξὺ τοῦ δρόμου καὶ τοῦ βωμοῦ ἐπάλαιον. οἱ γὰρ Ἠλεῖοι σὺν τοῖς ὅπλοις παρῆσαν ἤδη εἰς τὸ τέμενος.*

5. Philostratus *Gymn.* 3, speaking of the distinction in athletics between "light" and "heavy" events: *πένταθλος δὲ ἀμφοῖν συνηρμόσθη· (τὸ) παλαῖσαι μὲν γὰρ καὶ δισκεῦσαι βαρεῖς, τὸ δὲ ἀκοντίσαι καὶ πηδῆσαι καὶ δραμεῖν κοῦφοί εἰσι. πρὸ μὲν δὴ Ἰάσονος καὶ Πηλέως ἅλμα ἐστεφανοῦτο ἰδίᾳ καὶ δίσκος ἰδίᾳ καὶ τὸ ἀκόντιον ἤρκει ἐς νίκην κατὰ τοὺς χρόνους οὓς ἡ Ἀργὼ ἔπλει· Τελαμὼν μὲν κράτιστα ἐδίσκευε, Λυγκεὺς δὲ ἠκόντιζεν, ἔτρεχον δὲ καὶ ἐπήδων οἱ ἐκ Βορέου· Πηλεὺς δὲ ταῦτα μὲν ἦν δεύτερος, ἐκράτει δὲ ἁπάντων πάλῃ· ὁπότ' οὖν ἠγωνίζοντο ἐν Λήμνῳ, φασὶν Ἰάσονα Πηλεῖ χαριζόμενον συνάψαι τὰ πέντε, καὶ Πηλέα τὴν νίκην οὕτω συλλέξασθαι.*

6. Herodotus 9.33: *ἀσκέων δὲ πένταθλον* (sc. Tisamenus) *παρὰ ἓν πάλαισμα ἔδραμε νικᾶν Ὀλυμπιάδα, Ἱερωνύμῳ τῷ Ἀνδρίῳ ἐλθὼν ἐς ἔριν.* More fully in Pausanias 3.11.6: *οὕτω πένταθλον Ὀλυμπίασιν ἀσκήσας* (sc. Tisamenus) *ἀπῆλθεν ἡττηθείς, καίτοι τὰ δύο γε ἦν πρῶτος· καὶ γὰρ δρόμῳ τε ἐκράτει καὶ πηδήματι Ἱερώνυμον τὸν Ἄνδριον, καταπαλαισθεὶς δὲ ὑπ' αὐτοῦ καὶ ἁμαρτὼν τῆς νίκης κτλ.*

7. *Anatolian Studies* 2 (1952) 127, no. 1 = Moretti no. 86 = *SEG* 12 (1955) 512: *Δημήτριος δὶς Σαλαμείνιος πένταθλο(ς) . . . νεικήσας τρὶς Ὀλύμπ[ια] κατὰ τὸ ἑξῆς ἀνδρῶν στάδιον καὶ δὶς πέν[τα]θλον· . . . Ἴσθμια δὶς ἱερόν· ἐν Νέᾳ πόλει τῆς Ἰταλίας Σεβαστὰ νεικήσας τοὺς ἀπογραψαμένους πζ'· . . . Ἀναζάρβου τῆς μητροπόλεως Ἀδριάνειον ἱερὸν δίς· . . . κοινὸν Ἀσίας νεικήσας πέμπτῳ ΑΠΑΩ Ὀπτᾶτον ποιήσας αὐτῷ τετράκις σύνδρομον.* This remarkable inscription is the most important item of new evidence that has appeared since Gardiner's article in 1925. I quote these items as T.1, T.2, etc. One or two other passages will be quoted where they apply.

[1] G. Moretti, *Iscrizioni Agonistiche Greche*, 1953. Cf. *AJA* 60.

[2] Jüthner's work on Philostratus is unfortunately inaccessible to me here; if in the present article I have done him less than justice, I offer my apologies.

[3] In Bacchylides 9.36, *τελευταίαι ἀμάρυγμα πάλαι*, the reading is doubtful, and most editors prefer *τελευτάσαι*.

II. First Theory (Gardiner-Pihkala).

Earlier theories are discussed and adequately refuted by Gardiner in *JHS* 23 (1903) 54ff. He establishes the principle that the number of competitors in the wrestling was restricted by elimination in the earlier events; this is proved by T.4, *οἱ εἰς πάλην ἀφικόμενοι*. He notes further the strong evidence (T.2) that the victor in the pentathlon was regarded as a triple winner. But, he continues, that three wins were sufficient does not mean that three wins were *necessary*; and the story of the Argonautic "pentathlon" is clear evidence to the contrary. Account must have been taken of other places than first. There Gardiner left it; but later a Finnish athlete, Captain Pihkala, devised a system on these lines which was adopted by Gardiner in *JHS* 45 (1925) 133-4, and again in his *Athletics of the Ancient World* (1930) 180. In this the basic principle is that three wins were necessary, but three *comparative*, not outright wins. Thus if A finishes fourth in the jump and B fifth, A scores a victory *as regards* B. The outright winner in any event scores a victory as regards all others, but no special value beyond this is attached to an outright win. After the first four events the relative performances of the competitors are examined, and anyone who has been defeated by any one rival in three events is eliminated; only those remain who, with regard to each other, have scored two wins and two defeats. Normally, two, three or four competitors will remain. These then decide the final victory by wrestling; the winner will have scored three comparative victories over all his rivals. This ingenious theory has never, so far as I know, been subjected to searching examination, though Jüthner in *RE, loc.cit.* is disposed to be critical of it. It has in fact serious disadvantages.

Among the considerations in favour of his theory Captain Pihkala notes (*JHS* 45 [1925] 133): "it was only necessary to determine the victor. The Greeks took little account of second or third places." This latter statement is in general unquestionably true, though it is a curious recommendation for a system under which second, third, and even much lower places must constantly have affected the final result. But the former assertion is not in fact correct: second prizes in the pentathlon were sometimes given, as at the Panathenaea in the fourth century B.C.[4] On the Pihkala system the second prize would presumably go to the runner-up in the wrestling, if the contest was not over before that event was reached; so that if there were three wrestlers the man who had the luck to draw the bye would be automatically assured of a prize. In the case of one man scoring three outright wins in the first four events, it is hard to see how the second prize could reasonably be awarded. At the same time, there is no doubt that as a general principle outright victory was the thing that mattered. It is difficult to believe that victory in the pentathlon could be achieved without winning a single one of the separate events,[5] or that the final result could be determined by the gaining of e.g., fifth place in one event rather than sixth—or indeed that fifth place over sixth would have seemed to a Greek to be a victory at all.

Captain Pihkala claims for his system that "it is simple both in theory and in practice. The reduction of competitors after the first four events could be effected in a few minutes by means of a simple scoring sheet." Pihkala and Gardiner deal with comparatively modest numbers of competitors, not more than a dozen or so. But even with a dozen difficulty might arise in the case of the foot-race, if all the places had to be recorded; and if there should be more runners than the stadium would accommodate at once,[6] an order of merit would be impossible, since heats would need to be run. In this connection the interpretation of T.7 (not of course known to Pihkala) becomes of critical importance. Demetrius at Naples defeated eighty-seven competitors: did he defeat them in the pentathlon or in the stadion? It is impossible to be quite sure. He apparently describes himself in l.1 as a pentathlete;[7] he then records his victories at Olympia in the stadion and the pentathlon; after this his successes are recorded without mention of the particular event. The presumption surely is that they were all gained in the pentathlon,[8] but a vexatious element of doubt must remain. At all events, it is possible, if no more, that really large numbers of competitors must be provided for. If so, this is fatal to the Gardiner-Pihkala theory. The foot-race

[4] *IG* II, 2311, lines 28 and 43.

[5] As for example in the supposed case of the Argonauts (T.5), where Peleus' four second places would be enough to secure him the victory.

[6] Twenty at Olympia. "It is highly improbable that there were ever so many entries" as this (*JHS* 23 [1903] 69).

[7] The stone has *πένταθλον*, but this is out of place, and Moretti's correction *πένταθλο(ι)* seems necessary. But the error (if such it is) adds unfortunately to the uncertainty.

[8] That gained over Optatus at the *κοινὰ Ἀσίας*, I think, certainly was: see below Section VIII.

becomes at once unmanageable; and even if this difficulty were overcome, what now becomes of the simple scoring sheet worked out in a few minutes? For my own part I feel—and I believe most people will share the feeling—that no system is likely to have commended itself to the Greeks which required paper and pencil for its working out. An order of merit in four events, recorded down to the eighty-seventh place, is more than anyone will be prepared to accept.[9]

But there is a still more serious practical objection to the Pihkala system. It is quite possible that it might fail to yield a result at all. After four events, every one of the competitors might quite well have been defeated in three events by one or more of his rivals. This point is briefly mentioned in *JHS* 45 (1925) 133, where Pihkala observes: "with four events this vicious circle is impossible," and Gardiner adds: "except in the highly improbable case of four competitors each having one first, one second, one third and one fourth place." This exception alone would be a damaging defect in the system; but actually the danger is much more serious. It is in fact easy to devise arrangements which will eliminate all the competitors. For example, any arrangement in which the same order of finishing is maintained, but with a different winner each time, will have this effect irrespective of the number of competitors; and many other random orders will produce the same result. In such a case no one qualifies for the wrestling, and the pentathlon remains undecided.

For these reasons, and particularly because its essential principle of comparative victories seems to me to be opposed to ancient Greek instinct, I do not believe this solution has hit the mark.

III. Second Theory (Moretti).

A new suggestion is offered by Moretti (*op.cit.* 17-19). He too bases his theory on the principle of comparative results, and suggests that points were allotted to the competitors according to their order of merit in each of the five events. Thus with n competitors, first place secures n points, second place $n-1$ points, and so on. The final winner is the one who scores the highest total of points in all five events, whether or not he wins any of them outright. But this system of point-scoring was not invariably applied. Moretti accepts the evidence that three clear wins at once determined the victor, and agrees further that if in the first four events two competitors had two clear wins each (as in T.6), these two alone contested the wrestling for the final victory. But if neither of these situations came to pass, then the point-system was applied.

I cannot think that this solution will be felt to be satisfactory. It is open to most of the same objections as the Pihkala theory, and to others as well. The two methods of scoring, by outright wins and by points, agree very ill together: a good all-rounder with a high point-score would be victor or not according to whether a set of three clear wins, or two sets of two wins, happened to be gained by others. But the really fatal difficulty is with the wrestling. It is impossible to agree with Moretti that wrestling, with its successive eliminating rounds, is well adapted to a point system. To award simply one point to first-round losers, two to second-round losers, and so on, would clearly underweight the wrestling as compared with the other events: e.g., with sixteen competitors the winner would get only five points instead of sixteen; the points would need to be graded according to the number of entries. Under this system far too much would depend on the luck of the draw;[10] and still greater advantage would be given to the fortunate drawer of a bye. The ultimate victory would be altogether too much a matter of chance.

IV. The "First Triad."

The key to the solution lies, I believe, in the expression (T.2) *νεικήσας πένταθλον πρώτῃ τριάδι*. Of the five events in the pentathlon three were peculiar to it, namely the jump, the discus and the javelin; racing and wrestling had their own separate events as well. It is surely natural that a rather special place should be given to these three. These are also the events in which no number of competitors, however high, could create a difficulty, and in which it is reasonable to suppose that all competed. Can it really be doubted that the "first triad" consisted of these three field events? We know that the wrestling came last, and that only a limited number of competitors were admitted to

[9] It is perhaps worth noting that the figure 87, though no doubt unusually large—or it would not have been mentioned—is not a record. We hear of eight and nine rounds in the wrestling, which on the knock-out system require even larger numbers (*TAM* II,301,304, cf. Robert, *Hellenica* VII,108).

[10] The draw was of course unseeded: see Lucian *Hermotimus* 39-40.

it; and we have seen that for the foot-race also it is desirable, if not necessary, that the number of competitors should be reduced. Under these circumstances the general scheme of the pentathlon seems to be clear beyond reasonable doubt. I suggest that it began with the three field events, and that only those who were successful in these were admitted to the running, which followed as the fourth event. After this, if no one had by this time scored three outright wins, those who had earned the right to do so went on to contest the final victory in the wrestling. My own belief is that for this the competitors were reduced to two only: that is, the wrestling consisted of a single bout and no more.[11]

Remarkable confirmation of such a system is afforded by a curious passage in Plutarch, which has hitherto caused great difficulty. Plutarch is expounding the superiority of the letter alpha over the other letters of the alphabet, and observes (Quaest. Symp. 9.2): *διὸ τοῖς τρισὶν ὥσπερ οἱ πένταθλοι περίεστι καὶ νικᾷ* (sc. *τὸ ἄλφα*), *τὰ μὲν πολλὰ τῷ φωνᾶεν εἶναι, τὰ δ' αὖ φωνάεντα τῷ δίχρονον, ταῦτα δ' αὐτὰ τῷ πεφυκέναι καθηγεῖσθαι, δευτερεύειν δὲ μηδέποτε μηδ' ἀκολουθεῖν.* That is, alpha is superior to the bulk of letters by being a vowel; among the vowels it is superior by having two quantities; and among the vowels which have two quantities it is superior by always coming first in diphthongs. Note that the superiority described is not just a simple superiority in three respects: the 24 competitors are successively reduced in three stages as in the pentathlon, first to the seven vowels (as by the "first triad"), then to those which have two quantities (as by the foot-race), and finally to the letter A (as by the wrestling).[12]

This general system of reduction of competitors in three stages I confidently believe to be correct, and in all that follows it will be assumed as the basic principle; but the exact method of its application leaves more room for doubt, and it may be that the present evidence is not sufficient to determine all the details. It is not, of course, to be forgotten that three clear wins were at all times enough to secure victory, and the competition might not go beyond the third or fourth event.

V. Third Theory.

My first idea was that only the outright winners in the first three events were admitted to the running, and that three outright wins out of the five events were necessary for victory, no account being taken of second or lower places. If such a system were possible, it would certainly be in many ways very attractive; a straightforward, clear-cut issue of this kind might well be supposed to have commended itself to the Greeks, with their undoubted predilection for outright victory. But there are difficulties. After the first triad there would be three possible situations:

a) One man might have won all three. He is then the victor, *νικήσας πρώτῃ τριάδι*, and the competition is at an end.

b) One man, A, might have two wins and another, B, one win. These two contest the foot-race. If A wins, he has now three wins and is the victor. If B wins, they have two wins each, and the wrestling decides. This was the case at Olympia in T.6. So far, so good: but

c) Three men might have one win each, and here the trouble begins. The function of the foot-race is then to reduce these three men to two; but a single race can produce only one outright winner. We might suppose that in the running first and second were taken, the third man being eliminated; but the principle of three clear wins is then violated. The alternative is to suppose that *two* races were run (e.g. stadion and diaulos), whose two winners contested the wrestling; this is, I think, better, but it has the disadvantage that the five events are in effect increased to six.[13]

[11] I cannot prove this, but it seems to be so in the only case of which we have clear evidence, namely the contest between Tisamenus and Hieronymus in T.6.

[12] No theory previously advanced has really explained this simile. Gardiner is contemptuous of it as evidence: "surely nothing can be more unscientific or more unliterary than to build up a theory on the details of a metaphor or simile." True, but the system I advocate is not "built up" only, or even mainly, on this particular passage, but on the evidence as a whole as I understand it. Plutarch's simile is merely a rather striking confirmation. A simile need not correspond in all details, but the more correspondence there is, obviously, the better.

[13] I am not, however, convinced that this suggestion is in itself entirely unacceptable: there are possibly one or two slight indications in its favour. The expression in T.4, *τὰ δρομικὰ τοῦ πεντάθλου*, is noticeable. If this refers to the foot-race, as seems natural now that the running is fixed as the fourth event, the plural is at least consistent with more than one race being run. (Gardiner understands the phrase otherwise: see *JHS* 23 [1903], 57, n. 13.) It is also curious that the length of the foot-race in the pentathlon is nowhere mentioned; this again is natural if in fact two lengths were sometimes run. But these considerations are of course far from cogent. There is, I think, little or no doubt that the pentathlon included a stadion-race, whether or not this was the only race; pentathletes often record also victories in the sta-

A solution on these lines is in fact half glanced at for a moment in Gardiner's article.[14] He refers to Dr. Holwerda's theory, by which only the winners of the first four events were permitted to proceed to the wrestling, and observes: "were such a view tenable, it would be better to make the first three competitions qualifying, and so make the theory harmonise with the *τριαγμός* of events peculiar to the pentathlon. But there are serious objections." The first objection is that Dr. Holwerda's theory gives too much weight to the wrestling:[15] this is not to our present point. The second is that on this system the victory of Peleus in T.5 would have been impossible; and here we reach the crux of the matter.

The Argonautic pentathlon is quite inconsistent with the theory at present under consideration, and with any other that assumes three clear wins to be necessary. Peleus comes second in each of the first four events and wins the wrestling, so (*οὕτω*) securing the victory.[16] Evidently second place is taken into account as well as first. The question then is (and we must clearly make up our minds about this): is Peleus' victory, gained in this way, to be accepted as one that could have been gained in the pentathlon of classical times? Our first inclination is of course to say yes. Philostratus tells the story à propos of the combination in the pentathlon of light and heavy events, and it plainly offers us a "historical" origin for the rather remarkable phenomenon of an event composed of five other events. It would naturally be supposed to conform to the characteristics of the thing it professes to explain. But the consequences of accepting it thus literally are serious.[17] In the story the first four events are won by four different men, and Peleus is second in each; but this is inconsistent with our essential principle of successive reduction of competitors in three stages—unless we are prepared to admit *third* places in the first triad. The winner of the fourth event cannot have done better than third in any of the first three. I for one am not ready to abandon the principle of successive reduction, and I should be most reluctant to descend as low as third place in the first triad; I prefer to believe that the Argonautic story is to this extent at least inconsistent with the classical pentathlon. And if to this extent, perhaps to a considerably greater extent as well. Is it really necessary to suppose that Jason at Lemnos was believed to have devised a system which continued ever afterwards to be applied in all its details? If so, it is curious that the Homeric heroes never adopted it. May not Philostratus be telling us merely how the basic idea of the pentathlon originated, namely to give credit to the all-rounder?[18] Nevertheless, in view of the utter incompatibility of Peleus' victory with our present theory, which takes account of first place only, combined with the difficulty mentioned above when the first triad produces three separate winners, I am now on the whole (though with considerable reluctance) disposed to abandon this theory.

VI. Fourth Theory (Raubitschek).

Having got so far, I prepared a memorandum, which was read by Professor A. Raubitschek, who was good enough to give me the benefit of his reasoned opinion. Professor Raubitschek concurred in my principle of the successive reduction of competitors down to two in the wrestling, but for the same reasons which are outlined above he was unable to accept the theory of victory only through three clear wins. In its place he proposed an alternative theory, which he has kindly authorised me to set forth here. His suggestion is that all competitors who in the first triad secured first *or second* place in one or more events were admitted to the foot-race, which would thus have from two to six participants: in the foot-race first and second were again taken, and these two decided the victory by wrestling.

Such a system is attractive in a number of ways. It is very nearly as simple and clear-cut as the

dion (e.g. T.7 and Moretti, nos. 11, 60, 61, 82), but rarely if ever in other races.

[14] *JHS* 23 (1903) 65.

[15] "In the case of a tie, practically making it count double." I am not sure that I understand this.

[16] It is true that we are not actually told what happened at Lemnos, but the heroes must obviously be supposed to have performed there in accordance with their reputations; otherwise the story has no point.

[17] I do not stress the fact (though it is a fact) that there is no other hint whatever of such value being assigned to second place, since we have so little evidence relating to the individual events of the pentathlon. What other evidence there is seems to envisage first place only: so the scholiast in T.2 speaks of three *victories* out of five, and in T.6 Tisamenus is *first* in running and jumping. For T.7 see below, Section VIII.

[18] No detailed system would be needed in order to make Peleus victor; he has obviously the best all-round record. Credit for second place is quite in accordance with practice in heroic times, when second and third prizes for athletics were normally given; in classical times they are a rarity.

previous theory, it could be easily followed by the spectators, and it could not fail to produce a victor. But again there are drawbacks, though of a different kind. The chief, indeed the only, evidence for admitting second places is the Argonautic pentathlon, and Professor Raubitschek observes that his theory makes Peleus' victory entirely possible. It is true that Peleus' personal record would on this system earn him the victory; but the results obtained at Lemnos as recorded by Philostratus are still not possible. As I pointed out above, the son of Boreas who won the running did not come first or second in any of the first three events, and ought not to have been permitted to run. However, for my own part I am very willing to admit that the Argonautic contest is not an accurate picture of the classical pentathlon. There are more unsatisfactory features than this.

First, as to the victory *πρώτῃ τριάδι*. The evidence collected in T.2 seems to make it quite clear, not only that three wins in five events was enough for victory, but that the victorious pentathlete was normally regarded as a triple winner.[19] Professor Raubitschek of course agrees that three clear wins in the first three (or presumably in the first four) events at once determined the result. But obviously the more non-winners we admit to the fourth and fifth events, the less likely is any one competitor to gain three outright wins; so far from being normal, such an achievement would tend to be a rarity.

But the really serious difficulty is, I think, on grounds of equity. Everyone will surely feel that in the fifth and final event the two contestants ought to come to the wrestling with at least approximately equal previous records; otherwise the wrestling counts for too much. But on the present theory there is nothing to prevent such an outcome as the following:

	I	II	III	IV
1st	A	C	D	A
2nd	B	A	A	B

A and B now contest the wrestling on an equality, though A's record is better than B's by two outright wins. This is surely overweighting the wrestling, and if B wins he can hardly be thought a worthy victor. Whatever the result of the wrestling, A is plainly the better man.[20]

I am accordingly not convinced that the true answer has yet been found.

VII. Fifth Theory.

A reasonably satisfactory solution can perhaps be obtained by a modification of the theory last discussed. This is to suppose that the participants in the foot-race were those who in the first triad had gained at least one first place or *two* second places. As before, first and second in the foot-race go on to the wrestling, unless any competitor has by then won three events outright.

The drawbacks to the Fourth Theory are in this case very largely removed. The Argonautic contest remains as nearly possible as before, and, since the acceptance of two second places in the first triad could not admit more than one non-winner to the foot-race, the frequency of a three-clear-wins victory would not be seriously diminished. There is also an air of logicality in allowing two second places the same right as one first. The question of equity remains. No system can be acceptable if it allows a competitor to emerge victorious over another who is demonstrably the better all-round athlete. From this point of view the least satisfactory situations would be the following:

(a)

	I	II	III	IV
1st	A	B	C	D
2nd	D	D	D	A

Here A and D now wrestle on an equality, though D's record is better than A's by two second places. But the apparent injustice is perhaps illusory. If A wins the wrestling, his victory is not hopelessly undeserved; true, D is placed in all five events and A only in three, but A has two clear wins against D's one, and D's second place in wrestling has no real value.[21]

(b)

	I	II	III	IV
1st	A	A	B	B
2nd	C	C	A	C

[19] Taken by themselves these passages would, I feel, inevitably suggest that three wins were actually *necessary*; but the difficulties in this case have already been emphasized.

[20] B might indeed have been sitting in the dressing-room during Events II and III, while A was narrowly failing in his attempt to score three clear wins. Being already assured after the first event of a place in the foot-race, he would have little or no incentive to do other than save his strength for Events IV and V.

[21] In practice this situation would almost certainly never arise, as D would presumably not bother to compete in Event III. In so far as his incentive is thus destroyed, this may be considered a defect in the system.

Here A is eliminated, though his record is still, even after the foot-race, better than either of his rivals': he has in fact come within an ace of winning *πρώτῃ τριάδι*, surely the acme of triumph for a pentathlete, yet all this goes for nothing because of a single failure in the running. Whatever may be thought of the justice of this, there is evidence to show that the running was in fact important, and that pentathletes cultivated it to a standard good enough for victory in the open events. As was mentioned above,[22] the same man often records victories in pentathlon and stadion.

I can find no more serious defects in the theory than this, and I accordingly offer it for consideration.

VIII. Ties and dead-heats.

Hitherto no account has been taken of the possibility of a tie in one or more of the five individual events. Ties in the field events can hardly have been common, but some provision must presumably have been made.[23] The general rule in ancient athletics was that ties, dead-heats and draws were not replayed, but the victory was divided. In the wrestling of the pentathlon this would simply mean that the whole event resulted in a tie; this causes no trouble, since, as was noted above (T.3), ties are in fact recorded. But the application of this principle in the other four events, so that all who tied were accepted, might well lead to difficulty. For example, a man who won two events in the first triad and tied for first place in the third could hardly become at once victor *πρώτῃ τριάδι*: yet if he merely passes on to the foot-race he is no better off than if he had come second. A dead-heat for second place in the running would also be awkward, as it would admit three to the wrestling; this can hardly have been permitted, as the fortunate *ἔφεδρος* would have a very unfair advantage.[24] The pentathlon would obviously work more smoothly if ties and dead-heats were, contrary to normal practice, replayed till a decision was reached. This question is of some importance by reason of the newly discovered inscription T.7, which cries aloud for explanation. What happened at the *κοινὰ Ἀσίας*? What is meant by *νεικήσας πέμπτῳ* ΑΠΛΩ *Ὀπτᾶτον ποιήσας αὐτῷ τετράκις σύνδρομον*?

In the first place, as with the 87 competitors at Naples (p. 362 above), the question arises, was the victory won in the pentathlon or in the stadion? *σύνδρομον* suggests running: if ΑΠΛΩ is *ἁπλῷ*, must we suppose that Demetrius and Optatus ran a "single" in the stadion-race (i.e. with no other competitors) and dead-heated four times, till Demetrius won at the fifth attempt? Moretti is surely right in rejecting this[25] and preferring to believe that the incident occurred in the pentathlon.[26] In this case, a possible solution would be to read *πέμπτῳ (πά)λῳ*, and suppose that Demetrius beat Optatus in the fifth event, the wrestling, having tied with him in the other four.[27] *πάλος* is then one of the events in the pentathlon (whereas *κλῆρος* is a round in any one event), and *σύνδρομον* is used of a tie in any kind of event, not only in running. But this explanation involves an alteration of the text, in addition to the rather unlikely use of *σύνδρομον*, and must be considered very dubious.

Professor Raubitschek suggested to me that the same sense can be obtained by keeping *ἁπλῷ* in the sense "clear", "simple", and understanding *πέμπτῳ ἁπλῷ* as meaning a clear win in the fifth event, following four ties. This makes the incident consistent with the Fourth Theory; but I am very doubtful if it can be right. Even granting that *σύνδρομον* could be used of ties in the field events, and that *ἁπλῷ* could mean a "clear" victory, surely *πέμπτῃ ἁπλῇ* (sc. *νίκῃ*) would be necessary. And in the case supposed, where the same two competitors tie for first place in each of the first three events, there would be no point in holding the fourth event, since there are only two contestants, and they might as well have proceeded straight to the wrestling.

[22] Page 364, note 13.

[23] In the inscriptions, ties occur chiefly in the "heavy" events, wrestling, boxing and pancration. There is little doubt that, in Roman times at least, "heavy" athletes were too ready to agree to a draw in the final round, and victors sometimes boast that they have never resorted to this ignoble expedient.

[24] This could be partially overcome by making the winner of the foot-race *ἔφεδρος* in the wrestling; but it hardly seems likely that this was actually done.

[25] Apart from other considerations, only two entries in the stadion at the *κοινὰ Ἀσίας* would surely be extraordinary. And why was the victory not divided in the usual way? But Moretti's point that such a quadruple dead-heat is extremely improbable is hardly valid: on any view something quite exceptional must have occurred.

[26] As was said above, the presumption is that all Demetrius' victories except at Olympia were gained in the pentathlon.

[27] I mentioned this possibility in *AJA*, *loc.cit.*, and I now see in *SEG*12 (1955) 512 that (πά)λῳ is suggested also by Woodward, with Gough's approval. No explanation is given in *SEG*, and I do not know how exactly Woodward intends the phrase to be understood.

My own belief is that the incident occurred in the foot-race of the pentathlon. If we suppose that in the first triad Demetrius had two clear wins and Optatus one, and that no other competitor had two second places, the foot-race would be a "single" between these two. They dead-heated four times, till at the fifth attempt Demetrius won, thereby scoring his third clear win and so gaining the victory. It is worth noting that if there were only two runners in the foot-race, one of them *must* have gained two wins in the first triad and the other one win, so that the term *ἁπλῷ* would by itself make the whole situation clear to a reader of the inscription.[28] This explanation suits the Third Theory as well as the Fifth, and also the Fourth if we suppose that Demetrius and Optatus occupied between them first and second places in all the three previous events. If it is right, we have definite evidence that in the foot-race of the pentathlon at least dead-heats were re-run till a decision was reached. If so, it can hardly be doubted that the same was done in the other events also, as convenience certainly requires. I believe therefore that in the pentathlon the normal principle of not replaying ties was not applied, except presumably in the wrestling.

IX. There are of course other possibilities. It would, for example, be possible to accept third or even lower places in the first triad, and to use some kind of point-count, admitting to the foot-race (say) the three or four highest scores. But this possibility has little to recommend it. The ingenuity of others may well devise a system preferable to any of those outlined above; or new and decisive evidence may appear at any moment. In the main principle, that of successive reduction of competitors, I have considerable confidence; if this should find acceptance, it alone may perhaps justify the present article.

ISTANBUL

[28] I felt at first some hesitation in giving *ἁπλῷ* this meaning. We use the term "single" in this way (though rather in games than in athletics) as opposed to a partnership contest; the Greeks had not the same reason to do so. But I think the word is sufficiently self-explanatory: a contest between two persons is after all the simplest form of contest, and *ἁπλοῦς* (sc. *ἀγών*, or in this case *δρόμος*) might quite well have been used as a technical term in this sense.

Addendum. While the above was in the press I read Moretti's article in *Rivista di Filologia* (1956) 55ff, commenting on a Rhodian inscription published by G. Pugliese Carratelli in *Annuario* 30-32 (1952-4) 289, no. 65. The inscription, in the Attic koine, is most regrettably fragmentary, but evidently deals with regulations for the conduct of the pentathlon. I transcribe the significant portion.

. . . . . ς *ἐπιστατήσουσι* ΤΟ - - -
. . . . *μέρος ἕως ἂν πεντάκις ἑκασ* - - -
. . *δ ἀλέσθω ὁ τὸ μακρότατον δισκευ* - - -
. . . *εἴτωσαν δὲ τὸ σκάμμα μήτε τὰ* ΠΕ - - -
. *ον τοῦ ἑδάφους τοῦ σταδίου* - - -
ἔστω ποδῶν δύο· ὁμοίως δὲ - - -
τοῦ κανόνος [*κ*]*αὶ ὁ* ΜΕ - - -
στητο καὶ ὁ ἐπὶ τοῦ ΤΕ - - -
όντων τῶν ΔΕ - - -
παλαιστοῦ - - -

In lines 5-6 Moretti understands that in the discus each competitor shall make five throws: *ἕως ἂν πεντάκις ἕκασ*[*τος δισκεύῃ*]: and that the winner of the discus shall perform first in the long jump: [*πρᾶτο*]ς (leg. [*πρῶτο*]ς) *ἀλέσθω ὁ τὸ μακρότατον δισκεύ*[*σας*]. These suggestions seem highly probable; but I doubt if the same may be said of Moretti's interpretation of the following lines, according to which it is prohibited for the athletes, after jumping, to disarrange the pit or the surface of the stadium ([*διακιν*]*είτωσαν*?) so as to falsify for their own advantage the result of the jump. Such a regulation seems unlikely, if only because such a form of cheating would be virtually impossible: it is hard to see how the athlete could so disturb the marks in the pit as to make his jump seem *longer*. In any case such a proceeding would be a most palpable foul. Furthermore, the regulations appear, as Moretti observes, to be addressed to the officials in charge of the contest rather than to the athletes. I suspect that in these lines instructions are laid down for the preparation of the jumping-pit, but I cannot suggest a likely restoration. It seems probable, however, that *ἔστω ποδῶν δύο* relates to the depth to which the *σκάμμα* should be dug; in hard ground two feet would be a very reasonable depth.

The whole of this text from line 7 onwards is peculiarly baffling; it is difficult to conceive so much as a possible restoration. *στητο* in line 11 seems indeed quite impossible, and must surely be an error. But the point which is most to the present purpose concerns the order in which the events are mentioned. In lines 5-6 we have the discus followed immediately by the long jump; the regulations for the latter continue apparently at least as far as line 10, since *κανών* is known to be the name for the rod with which the jumps were measured. Then in line 13 we have a reference to a wrestler. Moretti concludes that these three events must have followed one another as the last three of the five, so that the first two comprised the foot-race and javelin. This is of course inconsistent with the scheme I have proposed above, in which it is essential that the foot-race should come fourth; but I doubt if Moretti's conclusion can really be safely drawn. It is not necessary (though of course likely enough) that the events should be dealt with in the inscription in the exact order in which they were performed in the stadium; but even if it was so, there are other possibilities. There may, for example, have been nothing to say about the foot-race. Alternatively, regulations for the foot-race may in fact have been included in the unintelligible passage between *τοῦ κανόνος* in line 10 and *παλαιστοῦ* in line 13. Ought we possibly in line 11 to read — *στήτ*(*ω*) *καὶ ὁ ἐπὶ τοῦ τέ*[*ρματος*], supposing that instructions are given for the posting of the judges at the start and finish of the race? The wretchedly fragmentary condition of the text is most unfortunate; in its present state I doubt if it justifies any conclusions for the solution of our present problem.

Archaeology in Asia Minor

MACHTELD J. MELLINK

PLATES 120-125

THE year 1955 saw the continuation of digging at most of the important Bronze and Iron Age sites listed in a previous report (*AJA* 59 [1955] 231-240). Several periods are affected by outstanding discoveries. It becomes increasingly clear that the Middle Bronze Age was a crucial and prosperous phase in Anatolia. At present we can reconstruct its archaeology better than that of its counterpart in Greece, Middle Helladic. The excavations of the British Institute at Beycesultan now have identified a major—palatial—building of the Middle Bronze period in Western Asia Minor. Indications at Gordion point to a good settlement of this date hidden under later Hittite and Phrygian habitation levels, but well attested by the outlying cemetery dug in 1951-1953. At Kültepe-Kanish the systematic Turkish excavations were rewarded by the finding of the first tablets on the city mound, thereby opening the perspective of historical and chronological correlation between the colonists' city of the Karum and the properly Anatolian city on the main mound. The presence of archives in the city of Kanish had been postulated with virtual certainty, but neither Hrozný's nor the local peasants' erratic searching had produced cuneiform records on the much scarred city-site. The discovery of the name of Anitta (long familiar in proto-Hittite history) on a dagger found in Kanish adds a crowning touch to the successful exploration by the Turkish excavators, and helps to convert more Middle Bronze Age prehistory into second millennium history.

The German excavations at Boğazköy annually emphasize the fact that much can still be added to our fund of Hittite archaeology and history in the very capital of the Hittite world. The careful exploration and publication of this site maintains the status of Boğazköy as the ancient and modern Hittite center. Trenches in the lower city are adding valuable stratigraphical evidence to the information collected patiently on the eroded and often reconstructed citadel.

As for the post-Hittite cultures, a fuller report on Gordion and its magnificent Phrygian architecture appeared in *AJA* 60 (1956) 249. The Phrygian problem was recently studied in its artistic aspects by Professor Ekrem Akurgal of the University of Ankara (*Phrygische Kunst*, Ankara 1955). The re-assessment of some Phrygian issues can be initiated as the Gordion excavations develop. The architectural chapter, practically blank so far, turns out to be of surprising scope and importance.

The mound-formation at Gordion, especially its artificial clay stratum superposed on the Phrygian level, is a boon to the archaeologist searching for pre-classical information. At the rocky site of Xanthos in Lycia, however, erosion is a major obstacle to the recovery of pre-classical Lycian remains. The important results gathered by the French expedition so far concern the archaic and later periods mostly, but one can always hope for potential surprise in the form of accidentally preserved pockets of early material, however barren a site may look. The precious, although fragmentary, finds at the often rebuilt site of Phocaea confirm this.

None of these erosion factors will bother the Turkish explorers of the newly chosen site of Misis-Mopsouhestia in Cilicia. This large and high mound guards its history and prehistory in proper and abundant stratification. One hopes that enough backing can be found to organize a thorough investigation of the Iron Age history of Misis, the most promising period among the many represented in the mound.

Outstanding among the classical and Hellenistic finds in Asia Minor is the Doric temple at Klaros with its special architectural provisions for the oracle of Apollo. This monument will take a prominent place in future handbooks of ancient architecture, and it is to be hoped that some anastylosis and drainage can be effected for the benefit of modern preservation of the site.

The following notes are again due to the kind cooperation of several excavators. I want to express my thanks for information supplied by: Dr. Aşkidil Akarca, Professor Ekrem Akurgal, Dr. U. Bahadır Alkım, Professor Sedat Alp, Dr. Kemal Balkan, Professor K. Bittel, Professor H. T. Bossert, Dr. L. Budde, Dr. Halet Çambel, Professor P. Demargne, Mr. Nezih Fıratlı, Miss Theresa Goell, Professor H. G. Güterbock, Mr. Seton Lloyd, Professor A. Müfid Mansel, Professor F. Miltner,

Professor Tahsin Özgüç, Professor Louis Robert, Professor Muzaffer Şenyürek, Mr. Raci Temizer.

Reports on current archaeological activities in Asia Minor have also appeared in *Anadolu* 2 (1955); *Anatolian Studies* 5 (1955) 13-23; and *Orientalia* 25 (1956) 80-89.

PALAEOLITHIC SITES

Kılıç Kökten of the University of Ankara has published a survey of his materials from a cave at Karain in Pamphylia, about 15 miles Northwest of Antalya (*Belleten* 75 [1955] 284-293; cf. *Orientalia* 25 [1956] 89). Investigations of this cave were made intermittently since 1946. Karain is the first stratified cave site for the Palaeolithic period in Anatolia. A tooth of a child found in 1949 was identified by Professor M. Şenyürek as belonging to the category of Neanderthal man. There is also considerable faunal evidence.

The site of Karain is equally important for the study of Neolithic and Early Bronze Age settlement along the South coast of Asia Minor, since pottery of these periods is present in the cave. There are some scattered Roman and Hellenistic finds to prove the continued interest of the later population in such early haunts.

Dr. Halet Çambel of the University of Istanbul is working on a collection of Palaeolithic tools from sites near Dülük (Doliche) in Commagene. These sites have yielded surface material only.

BRONZE AGE SITES

Professor Tahsin Özgüç and Dr. Nimet Özgüç continued their excavations at Kültepe in July-September 1955. The work was sponsored by the Turkish Historical Society and the General Directorate of Museums (cf. *AJA* 59 [1955] 232f; new interim reports have appeared in *Belleten* 71 [1954] 373-390; 72 [1954] 445-447; 73 [1955] 64-80; 76 [1955] 453-461).

Investigations were carried out in the colony district, the Karum, as well as on the city mound, Kanish proper. In the Karum large areas of levels I b and II were cleared. Level I b is less well preserved, architecturally, than level II, but its tombs are sometimes found intact under the housefloors. The tomb gifts are rich: weapons, bronze vessels, gold and silver jewelry, a gold stampseal of Hittite shape with a design of a goddess, a small stone figurine of a boar of fine workmanship. This level I b is contemporary with Šamši-Adad I of Assyria and with the floruit of Alishar ("Hittite period"), whereas the counterpart of Karum level II seems to be insignificant at Alishar. The differences between levels I b and II in the Karum are becoming increasingly evident. The philological evidence about

the Karum levels is discussed in a new monograph by Dr. Kemal Balkan, epigraphist of the Kültepe expedition: *Observations on the chronological problems of the Kārum Kaniš* (Türk Tarih Kurumu Yayınlarından VII, seri No. 28, Ankara 1955). This book offers precious new material as well as new light on the interpretation of tablets from earlier excavations.

In level II of the Karum, new houses and new archives of hitherto unknown Assyrian and native merchants were found. Karum levels III and IV contain no tablets. The "Hittite" monochrome pottery, abundant and of a rich variety of shapes in levels I and II, decreases in quantity and variety down through levels III and IV. In level IV many Alishar III ("Cappadocian") type handmade vessels occur in about the same proportion as monochrome wheelmade ware. Some objects from level I b are illustrated here: pl. 120, fig. 1 an ivory figurine of a seated goddess, H. 0.093 m.; pl. 120, fig. 2 a stone mold for the making of lead figurines of a god and a goddess holding a child, H. 0.091 m.; pl. 120, fig. 3 a typical beaked pitcher of "Hittite" monochrome ware.

The excavations on the city mound of Kanish turned out to be extremely rewarding this year. In the old trench of the 1952 and 1954 campaigns, two levels had been distinguished: an upper, burnt level with a building of megaron type on stone foundations, which had cut into a second level containing a large building of solid mud brick, also burnt. Near this lower building, a bronze dagger had been found in 1954 which upon cleaning (by Mr. Mustafa Tutus of the Ankara Museum) proved to carry a cuneiform inscription: é.gal A-nita ru-ba-im "palace of Anitta the king" (cf. Kemal Balkan, *op. cit.* 78-79). This discovery has wide ramifications, Anitta being known to us as an early Anatolian king and predecessor of the Hittite Old Kingdom dynasty. His name appears in Hittite (later) records as well as in contemporary documents from Alishar and the Kārum Kaniš (cf. O. Gurney, *The Hittites*, 19ff). His residence being at Kuššar, one may suppose the palace at Kültepe to have been an administrative building belonging to Anitta. The dagger has been published by Professor Özgüç in *Belleten* 77 (1956) 33-36. He kindly provides us with an illustration (pl. 120, fig. 4) and the following information: ". . . there can be no doubt that the dagger . . . belonged to the second level building in squares N/O/P/R-36/37/38/39 and that it suffered from the same conflagration. . . . On account of its bent tang the Kültepe dagger belongs to the so-called "Cypriot" type. . . . In the present condition the total length of the dagger is 0.291 m. . . . At the widest part of the blade two long rectangular slits are situated parallel with each other. Directly below them are two identical perforations which have been carefully closed by metal fillings. A possible explanation of this unique feature is that these lower holes were situated too far down the blade, and had to be replaced by the upper ones."

In the new trench opened to the North of the megaron cut, a Roman level was fairly well preserved (second to third century A.D.) with houses of small stone walls. Hellenistic and Phrygian sherds were found below this, but no coherent architecture of these periods. Then burnt walls emerged belonging to the upper Hittite period, contemporary with the megaron in the old trench. This upper construction in the new trench, and previous excavations by Hrozný are responsible for the destruction of part of Hittite level II, which contained a large burnt building. This newly discovered building appears to be the palace of the king of Kanish, as suggested by five cuneiform Assyrian tablets found *in situ* on the floors. These tablets are of historical character, containing royal correspondence and lists of palace officials. The name of the king of Kanish is given (Waršama, son of Inar) and two other kingdoms are referred to. There is no mention of the Assyrian colonists. These tablets, the first to have been found on the city mound of Kanish, will shortly be published by Dr. Kemal Balkan. He kindly informs me that three of the tablets belong to a period subsequent to Level I b of the Karum, whereas the other two are earlier and contemporary with Karum level II.

The level corresponding to that below this new palace is contemporary with Alishar III. It has three sub-periods and contains a rich collection of painted pottery, as well as some imported Syrian bottles, important for synchronisms with the Amuq and Tarsus (cf. *AJA* 51 [1947] 384, note 17). This level is also the proper context of the so-called Cappadocian idols of alabaster (cf. e.g. Bossert, *Altanatolien*, figs. 333-347). Some new types were found: one large idol with four heads has a decoration in relief on its round body, consisting of a couchant lion being attacked or held on a leash by a small human figure. There are several small seated female idols (some steatopygous) holding their breasts.

The simple houses of the Alishar III period are built over a stratum which is to be correlated with the closing period of Alishar I b, and which is characterized by the presence of "depata." The pottery of this Kanish level is more related to that of Alishar than to materials from Alaca, Pazarlı, or the Samsun region.

Some of the Hittite finds made at Fraktin in Southern Cappadocia (cf. *AJA* 59 [1955] 233) have now been published by Dr. Nimet Özgüç in *Belleten* 75 (1955) 301-307.

Boğazköy continues to contribute original information to our understanding of Hittite and Phrygian matters. Preliminary reports with illustrations of some of the finds mentioned in *AJA* 59 (1955) 233f have appeared in *MDOG* 87, 11-25 and 88, 1-36, where one can also find the first more elaborate data on Büyükkaya, the newly explored citadel across the gorge from the main fortress Büyükkale. The following information is kindly provided by Professor Bittel.

During the 1955 season two areas were investigated: the southern part of Büyükkale and the northernmost, lowest part of the ancient city.

On Büyükkale the citadel gate was uncovered. It lies in the Southwest corner of the line of fortifications (squares cc-dd / 19 on the plan in *Beilage* 3 of *WVDOG* 63), and follows the normal pattern known for Hittite monumental gateways of the Empire period. The gate has projecting towers which protect the anteroom and two sets of doors with a gateroom. The level of the gate is so high that it can be reached from the southern area only by a steep ramp which is flanked on both sides by high retaining walls and parapets of large boulders. Apart from the gate there was one other entrance-way into the interior of the citadel, viz. a postern of the corbelled variety. It has its exit immediately to the East of the gate at the base of Büyükkale, rises steeply under the Southern glacis of the citadel and emerges in the citadel at the back of the Eastern gate tower. Gate and postern were constructed during the fortification of Büyükkale ca. 1400 B.C. In the course of the 13th century the gate was abandoned and a long descending bastion was built over it, whereas the postern continued in use. The latter was not given up until ca. 1200 B.C. or shortly afterwards when the round construction referred to *AJA* 59 (1955) 233 was built over its lower exit. Upon closer investigation it turned out that this round construction and its ramp of access did not belong to the fortifications of Büyükkale but served a ritual purpose. This is the most recent piece of Hittite architecture so far known at Boğazköy.

In the interior of Büyükkale, South of building C (the "shrine," cf. the plan on *Beilage* 3, *WVDOG* 63) a large complex was uncovered consisting of four parallel long rooms. The two southern rooms each have a double row of limestone bases for roof-supports. This new building (called H) borders on building B to the East and is connected to the West with building C by a wall, although it forms an autonomous unit in plan and arrangements. As almost all buildings on Büyükkale, building H originally must have had several stories, but no more than the stone socle of the lowest floor is preserved.

During the excavations on Büyükkale slightly over three hundred fragments of cuneiform tablets were found. An almost complete tablet of a single column belongs to the little studied category of "lists." Other noteworthy items are a hymn to the sun god in middle Babylonian writing and language; a Luvian incantation; several Akkadian clay liver models; a letter from a man called Maša addressed to the Great King in which Assyrians play some (unexplained) part; two fragments belonging to the Hittite laws; a Hurrian list of river names; two fragments belonging to the Hittite myth of Telepinu. In building B, but unfortunately in the debris, a fragment of a monumental Hieroglyphic Hittite inscription was found. It is of highly polished granite; the signs are raised and cleanly carved. From the citadel gate came a limestone block with an unfinished Hieroglyphic Hittite inscription. A few signs, among them a royal cone, are finished, the rest was left in a roughed-out stage.

The harvest of bullae was again prolific on Büyükkale. A special find was a large stopper with an impression of a seal of Šuppiluliuma referring to him merely as king, which seems to imply that the seal belongs to a period when Šuppiluliuma was not yet Great King. Several seals bear the name of Tuwarasa, a person also known in the cuneiform tradition. There are good specimens among the decorated seals. One has in the ring around the Hieroglyphic Hittite legend a number of deities with their emblems grouped around an altar; another shows a bull standing to the left; a third has two antithetical lions in excellent detail; a fourth shows a rampant lion to the right

and a rampant bull to the left of a "tree of life," under which appears a Hieroglyphic Hittite legend and further below a large guilloche. There is also a remarkable cylinder seal, a form admittedly rare in Hittite art. This cylinder is of grey stone and has slightly concave sides. The design consists of two human beings with outstretched arms to the left and a bull-man seen full-face. The seal is clearly a local imitation carved by a seal-cutter unused to this shape.

For the post-Hittite period at Büyükkale the citadel gate was excavated approximately in the center of the West side. A staircase arrangement is preserved leading from the interior to the platform of the gate tower. A large fragment of a Phrygian terracotta revetment painted in white and red deserves mention as the first specimen of this category to be found at Boğazköy, whereas many are known from Pazarlı, Akalan and Gordion.

In the northernmost part of the city which had not been excavated so far a trench of 30 m. East-West was cut (about 20-21 / I on plan 1 of *WVDOG* 63). This is the lowest area of the old city of Ḫatti. To a depth of slightly over 3.50 m. a stratification of humus and irregular sand striations was found, proof of temporary floods in winter and spring. Below this, however, a long and heavy wall of good limestone blocks emerged, built in the best style of the Hittite Empire. Parallel to it ran a drain with well-jointed floorslabs. Size and execution suggest a large official building, as do the small finds. Two clay bullae from here carry the seal impression of Ḫattušili III and the Great Queen Puduḫepa. Also found were a heavy copper ingot with incurved sides; a small ivory statuette of a mountain god of excellent workmanship (horned peaked cap, neat plait of hair, arms raised in front of chest and hands clasped with stiff thumbs, lower part of body imbricated). In this area there seems to be a lower level of the Assyrian colony period, as a fragment of an old Assyrian business record of Kültepe type turned up here, mentioning "the city" (i.e. Assur); also a small burnt fragment with one cuneiform sign (GIL) in a writing different from Boğazköy cuneiform. Excavations are to continue in this area in 1956.

Another campaign of excavations was conducted at Karahüyük near Konya by Professor Sedat Alp of the University of Ankara (cf. *AJA* 59 [1955] 234; *Belleten* 71 [1954] 402-404; *Orientalia* 25 [1956] 84 and 87). Professor Alp kindly gives us the following information on the progress of his excavations, which started in 1953.

On the highest part of the mound two trial trenches led to the discovery of Hittite cremation burials. These burials occur in the top level (about 1-2 m. under the surface) and are covered with pithos sherds, many of which bear Hittite Hieroglyphic signs as molded decorations.

Work was done on the Northern part of the mound in all three campaigns. The most important discovery in this area was made in 1955, when an Old Hittite palace with a street bordering on one side of it was found. The plan shows a number of rooms grouped around a central court. The walls are 1 m. thick; a staircase was found *in situ*. This palace is fiercely burnt, which improves the preservation of clay objects of this level (level I). The most interesting contents of this palace, found in abundance in 1955, are stamped clay bullae, broken fragments of the sealed clay covering of merchandise in vessels and other containers. One vessel was found with its clay sealing intact around rim and cover. Many of the sealings are on lumps of clay which still have string- and knot-impressions on the back. The seals are predominantly local, round stamp seals which make a liberal use of guilloche and running spiral borders, often used in combination. The central design mostly consists of animal groups or elements, once of a seated deity placed in front of an offering table. The work is very fine and often reminiscent of the so-called Tysciewicz group of Anatolian seals. There are some cylinder seal impressions on these bullae, frequently in conjunction with stamp seal impressions. One of the cylinder seal impressions belongs to the group of Kültepe seals of colonial Assyrian style; it occurs with a stamp seal on the same bulla. Among the other cylinder seal impressions there are seals of Old Babylonian, Syro-Hittite and Cappadocian style which certify the date of the first level as pre-Hittite Empire. Two originals were found of Syrian cylinder seals, one of outstanding quality showing a scene of worship with music and subsidiary ornament of lions, sphinxes, deer and ibex.

The houses of level I are neatly built of mud-brick and wood, sometimes on stone foundations, in plan reminiscent of the rectangular houses of Thermi ("megara") with party walls. Horned hearths are found *in situ* and decorated with stamped designs (cf. similar features at Kusura near Afyon Karahissar, upper levels, *Archaeologia*

86 [1936] 37ff; 87 [1937] 256ff). Stamp seal impressions (and in one case a cylinder seal impression) also appear on crescent-shaped loomweights of a well-known Anatolian variety (again paralleled at Kusura).

The pottery is of general Hittite appearance of Middle Bronze rather than Late Bronze variety. There are some local variants in shape. A large vessel is in the shape of a nude woman holding her breasts. The body is barrel-shaped, but the face is elaborate. There is a handle from the back of the head to the shoulders. Excellent buff and white polished ware is also found among the pottery, as well as several rhyton shapes. A notable earlier find was a stone mold for the making of a lead figurine of a goddess with ibexes issuing from her shoulders and lions going down from her waist. Similar molds and figurines are familiar from Kültepe (cf. pl. 120, fig. 2) and other sites.

Level II at Karahüyük shows no break of culture with respect to I. There are horseshoe shaped hearths of Kültepe type in the rooms. An impression of a cylinder seal from this level is in the "native style" of Kültepe. The pottery of this level and of level III further below is very similar to that of level I.

In the plain around the mound soundings revealed that below four meters of alluvium several Bronze Age habitation levels are to be found. The upper level here equals level I on the Hüyük. In level II in the plain heavy stone foundations (one meter thick) resemble the architecture of Kültepe Karum level II.

The excavations will be continued in 1956 especially in the area outside of the mound where it is hoped a local Karum (Assyrian trade establishment) can be found.

Professor Alp is preparing a special report on the seals of Karahüyük and a general preliminary report on the excavations.

Mr. Seton Lloyd kindly continues last year's preliminary report on his excavations at BEYCESULTAN in the upper Maeander valley (cf. *AJA* 59 [1955] 234-235).

"The second season's excavations at Beycesultan, near Çivril in the Vilayet of Denizli lasted from May 1st to July 8th 1955. As field-director, Mr. Seton Lloyd was assisted by Mr. James Mellaart (Fellow of the Ankara Institute), Mr. G. R. H. Wright (Architect) and Mrs. Wright, Mr. J. Carswell (Draftsman), Mr. M. R. Cookson (Photographer) and Bayan Nihal Dönmez as representative of the Turkish Government.

"Some of the results have been published in the *Times* of June 28, July 8, and August 1.

"It will be remembered that, of the great Burnt Palace discovered in 1954, only a small part could be excavated, where, owing to the conformation of the mound, its ruins were accessible directly beneath the surface. Nearer the summit of the hill, there had been a long period of later occupation; and it was these upper levels which had now to be excavated, before the clearance of the palace could continue. This work took place during the first four weeks of the season. Four principal building periods were distinguished subsequent to the destruction of the Palace (level V). First there was a long period of occupation under impoverished conditions where such buildings as existed were shapeless and poorly constructed (level IV). Next came a period of more settled conditions and orderly building, but without traces of formal planning (level III). This could be dated to the fourteenth century B.C. Level II included the building known as the 'Little Palace' discovered in 1954. The settlement had by now evidently regained the status of a provincial capital, and the fairly large area, which we were able to clear, disclosed a part of the palace-enclosure or walled saray in which the local ruler had evidently lived during the late part of the thirteenth century B.C.

"The part of the enclosure excavated was divided into three parts by parallel streets paved with gravel. On the South side, the 'Little Palace' building evidently represented administrative offices, a repeated unit, consisting of small stoa and courtyard, even suggesting courts of law. To the North were residential buildings including a megaron-type house, complete with portico, central hearth and a range of subsidiary rooms down one side (pl. 120, fig. 5). Annexed to this at one end were the two small shops ('food store' and 'wine-shop') discovered in 1954 and some accommodation for servants. The central sector between the two streets was rather surprisingly occupied by carefully planned stabling for horses—ranges of tethering posts under cover and loose-boxes, where decayed straw still lay on the floor and in the mangers. The distinctive pottery and small objects characteristic of this level, derived also from the private houses excavated on the Western mound in 1954, has now been published in considerable detail (see *Anatolian Studies* 5 [1955]).

"The buildings of the palace enclosure in level II had been destroyed by fire. In the remains which overlay its ruins, two further sub-periods could be recognized. In the first, squatters had reoccupied the site, patching and re-building the earlier walls to make their dwellings. The second was represented by the remains of a single substantial building at the very summit of the mound. It was again a dwelling of the megaron type, portico and double-doors leading to an inner hall with a central hearth. There were indications of a stairway to an upper floor and a lateral room paved with stone for washing. A fine bronze macehead and other finds made in this building suggested a date at the very end of the twelfth century B.C. for the last occupation of the mound (for some small finds from level I b cf. pl. 121, fig. 6: carved ivory stamp-seal and stone mold for a bronze seal).

"After the clearing of the upper levels had been completed, a further section of the old Burnt Palace beneath was excavated. At the same time a lateral trench was carried westward in order to determine its extent in that direction. The evidence from these two sources enabled almost half the plan of the building to be reconstructed. A central courtyard, almost ninety feet across, had a single range of imposing chambers on its West side, one of which must have served as a vestibule for the main entrance from that direction. To the East, on the main axis of the courtyard, a columned entrance led to a reception hall, thirty feet deep, whose plastered walls had been decorated in several colors. The 'painted hall' led to other suites of reception rooms, whose exact purpose was no longer recognizable, and beyond to the Eastern entrance with its sunken lustral area, discovered in 1954. From the twenty-five chambers of this building so far cleared one could obtain a good idea of local architectural devices. The builders seemed to have no knowledge of masonry, for not a single cut stone was found in the whole building; on the other hand vast quantities of timber had been used, both in the structure itself and over the subpavement heating passages, whose existence had been discovered in the previous season. The presence of so much wood had clearly been responsible for the ferocity of the fire which destroyed the building. This, and the systematic looting which had evidently taken place before it was burnt, made its excavation extremely unproductive in respect of objects or pottery, and, when the final weeks of our season were reached without any evidence having been found which could suggest a date for the building, it was decided to transfer our attention temporarily to another part of the mound.

"The site chosen for the new sounding was that of the private houses (level II) excavated in the previous year on the Western hill. Occupations corresponding to levels III and IV were encountered, and beneath these it was most gratifying to come upon two chambers of a new public building contemporary with the Burnt Palace, not destroyed by fire. One noted for the first time the exact arrangement of the timber framework reinforcing the mudbrick walls and their sub-structure of uncut stones.

"Beneath the foundations of this building, we penetrated into three further occupation levels (VI, VII and VIII) and from these and the level V chambers themselves recovered a most revealing collection of pottery. Several facts at once emerged. Level VI represented the point of transition from the Early Bronze Age to the Middle Bronze Age, levels VII and VIII the latest phase of the Early Bronze Age itself. It was also possible to be certain that there was no break in the occupation or interruption of cultural continuity between these levels and the large building in level V. So this building, and accordingly the Burnt Palace also, may now reliably be attributed to the earliest phase of the Middle Bronze Age and to a date in the neighborhood of 1800 B.C. Interesting features of the crucially important level VI were quantities of 'red-cross bowls,' several cups of the 'depas amphikypellon' type including one fine painted example (pl. 121, fig. 7) and a curiously late occurrence of Yortan types, particularly miniature jugs and spouted vessels. A further check on these early occupation levels was afterwards made by means of a further sounding in trench 'E,' to the East of the Burnt Palace itself. The results were identical, except for the fact that level VI had been demolished as a result of terracing operations when the Palace was being built."

Further information on FIKIRTEPE, the prehistoric site in Kadiköy on the Asiatic side of Istanbul, can be found in *Anadolu* 2 (1955) 26; *Belleten* 70 (1954) 132f with fig. 1 and map 1; and *Orientalia* 25 (1956) 88. The material from this site is temporarily in the University at Istanbul. Excavation was difficult because no stone or mud brick were used as building materials. Wattle-and-daub huts apparently served as shelters for the seasonal

(?) inhabitants. Contracted burials were found within the settlement. No metal was encountered, but tools were made of flint, bone and obsidian. Well-carved bone spoons were among the tomb gifts. The pottery of Fikirtepe is grey-buff-black monochrome ware (rarely incised) of curious shapes, antedating Troy I. Animal bones give abundant evidence of hunting and fishing with few signs of domestication of animals.

The site of Höyücek near Larisa on the Hermos was explored by Professor M. Senyürek of the University of Ankara in 1949 and again in 1954 (*Belleten* 55 [1950] 496-504; *Orientalia* 25 [1956] 89). This small mound has a good occupation contemporary with Troy I and apparently was abandoned about the end of that period or at the very beginning of Troy II, not unlike Thermi on Lesbos which was destroyed at the start of the Troy II phase.

Another mound called Höyücek was identified in 1955 near the village of Bozköy, 2 km. South of the ancient site of Kyme. Professor Senyürek and his staff also made a trial excavation at this second site, now called Bozköy-Höyücek, and found remains of the Troy I period only in two building levels to a depth of two meters. Such interruptions in habitation of Troy I type sites (cf. also Bayraklı near Izmir) may well be significant in connection with the establishment of new warrior dynasties exemplified by Troy II.

Pottery of third millennium Yortan type is being found in great quantities by peasants in the village of Bayindir in the district of Balikesir, ancient Mysia. About 100 pots have been acquired by the Museum in Istanbul, which plans an investigation of their provenance. One suspects that a cemetery of the type known from Babaköy (*AOF* 13 [1939-41] 1-28) is the source of the new pottery finds.

IRON AGE AND CLASSICAL SITES

At Karatepe regular campaigns continue to be conducted by Dr. Halet Çambel and Dr. Bahadır Alkım of the University of Istanbul. Interim reports on previous seasons have appeared in *Belleten* 56 (1950) 657-658, 681-682; 64 (1952) 620-627; and *Orientalia* 25 (1956) 84-85, 87-88. The best plans are available in H. T. Bossert (*et al.*), *Die Ausgrabungen auf dem Karatepe* (Ankara 1950). In addition to the city walls and the upper and lower gateways, there is now considerable evidence about a palace on the summit of the hill (area I-K / 21-24) and a temple (area J-M / 13-16). Perhaps the most important result of further soundings is the finding of lower levels under the burnt citadel of Asitavandas.

Dr. Alkım in the campaign of 1955 gathered further architectural data concerning the system of inner and outer fortification walls, long stretches of which were traced through the dense forest on the slopes of Karatepe. A late classical or Byzantine building of megaron plan was discovered near the upper gate. In the palace area, three levels could be distinguished: Asitavandas' burnt building, an earlier architectural stratum, and a third level of which rock-cuttings and post-holes give clear evidence.

The restorations proceed under Dr. Halet Çambel's direction. Walls and ramps are restored and reinforced, and the sculptures, both orthostates and gate-guardians, are being pieced together and re-erected in their original location on restored base-slabs. New fragments of previously found sculptures and of new Hittite Hieroglyphic and Phoenician inscriptions were recovered near the upper gate.

The fortress on the Eastern bank of the Ceyhan opposite Karatepe, Domuztepe, is now being studied for a final publication by Dr. U. Bahadır Alkım. The actual fieldwork took place from 1947-1953, and is summarized in *Belleten* 62 (1952) 238-250. Domuztepe was occupied in Roman and Hellenistic times, and has at least three earlier occupation levels: one contemporary with Asitavandas king of Karatepe, one earlier Iron Age stratum, and one possibly Late Bronze phase. There is some sculpture left of the neo-Hittite period, including several gate lions (e.g. pl. 121, fig. 8, H. 1.10 m.) and orthostates, one of which has the familiar scene of two men flanking a sacred tree and winged disc in Karatepe style (pl. 121, fig. 9, H. 1.56 m.). The further analysis of the chronology of this site may help to clarify the occupation phases and political history of Karatepe. A Hittite Hieroglyphic inscription found on a double bull base is being studied by Professor Bossert.

In September-October 1955, Professor Bossert in cooperation with Dr. Ludwig Budde of the University of Münster started investigations of the large mound at Misis-Mopsouhestia in Cilicia (Seleucia on the Pyramus). This site dominates the ancient and modern crossing of the river Ceyhan (Pyramus) by the Cilician East-West road,

and can be supposed to be a key center for the Dark Ages and Iron Age history of Cilicia. The name of Mopsos-Mukšuš, preserved in Greek legend and Hittite tradition, is specifically attached to this city which may well be his original capital (cf. Bossert, *Orientalia* 19 [1950] 122-124, pls. III-IV; and for the mound M. V. Seton-Williams, *Anatolian Studies* 4 [1954] 164f).

The initial campaign was mostly devoted to architectural surveying and surface exploration. The most important result was the discovery of a large well-preserved floor mosaic in what presumably was the church of Theodoros bishop of Mopsouhestia.

The square central panel contains a representation of Noah's ark surrounded by the animals of the air and the land. The ark is in the shape of a chest. One dove is half-shown entering the pointed lateral window of the ark, another dove is visible in the top part of the chest in front of the opened lid. Although Noah and his family are not represented, an inscription on the lid of the chest identifies it as the ark. The "ark without Noah" thus forms a good illustration of an early Christian symbol. The identification of ark and church, attested in literature, here is attested beyond doubt in illustration. The emphasis shifts from Noah the saved to the saving ark, independent symbol of the church. The above comments are due to Dr. L. Budde.

The French excavations at XANTHOS in Lycia have been in progress since 1950 (cf. for a preliminary notice *AJA* 59 [1955] 235. New bibliography: *CRAI* [1954] 111-118; [1955] 104-110; *Anadolu* 2 [1955] 63-70; *FastiA* 8 [1953] forthcoming). A seventh campaign will take place in September-October 1956. The work is directed by Professor P. Demargne of the University of Paris and Professor H. Metzger of the University of Lyon. We owe the following report to Professor Demargne:

"The main purpose at Xanthos is to study an indigenous civilization of Asia Minor in contact with the Greek world. Our discoveries unfortunately do not go back beyond the seventh century B.C., whereas they go down to the early Byzantine period and the attacks of the Arabs which must have put an end to the existence of Xanthos.

"A general survey of the site showed that the city of the seventh to fourth centuries was restricted to an acropolis directly overlying the river. In the course of the third century B.C. a new circuit wall was made to enclose a considerably enlarged city with a new, higher acropolis.

"1. The 'Lycian' acropolis has been the site of our principal activities since 1951. Here as elsewhere Roman or Byzantine constructions often have ruined the remains of previous periods. In the surface level, we have cleared a house of the fourth or fifth century A.D. One of its rooms has mosaics, among which appears a subject unique to our knowledge: the young Achilles being dipped by Thetis in the source of the Styx. In 1955 a basilica was explored in collaboration with M. Delvoye, Professor at the University of Brussels. There are many churches on the site.

"The levels between Byzantine and archaic are ill represented on this badly ruined acropolis. On the highest point, however, although bedrock crops up on the surface, the main temple could be identified, probably that of Artemis. Terracottas of the type known on Rhodes and Samos in the second half of the sixth century were found. Nearby a poorly preserved building is being cleared, a sanctuary or heroon with a *bothros*.

"On a lower terrace on the East side of the acropolis the finds were abundant. At the foot of a large retaining wall of the upper terrace an extensive deposit of Attic Black-figure (of ca. 540-480 B.C.) began to appear in 1952. This is the most important Black-figure group known in Asia Minor so far (for the earliest Attic import in Xanthos see pl. 122, fig. 10). Mixed in with it there are some orientalizing small objects and only a few East Greek sherds. Excavation here is still continuing. A kind of palace-fortress stood on this terrace. All the relevant finds are of the same period, viz. 540-480, which seems to have been a great epoch in the life of the city, and incidentally also the period of the earliest pillar tombs.

"Below this palace and under an ashlayer which certainly corresponds to the burning mentioned by Herodotus (1.176) we have reached the ruins of another building consisting of many rooms, going back to the early sixth and seventh centuries. Ionian amphorae and kylikes are among the finds, also very few orientalizing Rhodian sherds, and subgeometric ware related to island and Cypriote fabrics. This period, incompletely explored, is the earliest known so far at the site.

"2. North of this acropolis a small level area was later occupied by the Agora and the Roman theater. The Agora has only been rapidly surveyed in its most recent form (probably second century A.D.).

The theater, also second century Roman, has been completely cleared by M. Frézouls. The Roman city-planners respected the funeral monuments which had been set up in this area. At the Southwest corner of the Agora we have done much work on the famous Harpy Tomb (which the Turkish authorities plan to restore). A fragment of the frieze was recovered (head of the seated person on the South side) as well as guardian lion. Nearby we explored a little-known curious monument: a Lycian sarcophagus set on a hollow pillar in which we had the good luck of finding an intact burial of the third century B.C. With it was a faïence oinochoe of well-known Alexandrian type with the name of Berenike Euergetis. This burial was protected by a reused, handsome archaic slab of ca. 525 B.C., decorated with a relief of four persons (wrestlers, lyre-player), probably representing funeral games (pl. 122, fig. 11). The relief is of great value to the study of the Hellenization of Anatolian art by Ionic artists.

"At the Northeast corner of the same Agora another famous monument had been left intact by the Romans: the inscribed pillar. The Lycian inscription on it, one of the most elegant epigraphic monuments in Asia Minor, has been studied by Kalinka (*TAM* I, 38-48) and is known to refer to events in the Peloponnesian war. We now have recovered several blocks belonging to the sculptured frieze of the inscribed pillar, showing scenes of war, which then can be dated to the last third of the fifth century B.C. (pl. 122, fig. 12).

"The inscribed pillar can now be restored in its entirety. The stepped capstone supported a block on which there are beyond any doubt traces of attachment of a throne and of two feet of a seated person. The statue of the ruler (not found so far) must have crowned the funerary pillar which also served as a victory monument.

"3. Another necropolis on the East slopes of the Roman citadel has had our attention since 1951. This necropolis must have been organized in the fourth century, a phase of Hellenization at Xanthos. One complete pillar tomb, the last one in the chronological series, stands above a cliff into which two tiers of rock tombs were cut (pl. 122, fig. 13). A rock tomb at a slight distance from here has an Ionic façade instead of the usual native geometric treatment. Two sarcophagi of the same necropolis are certainly fourth century. One of them is very Hellenized in proportions, like the pillar tomb, and has lion heads on the lid as its only sculptural ornaments. The other tomb, the so-called tomb of Payava, upon clearance produced a corner block which had been missed by Fellows. The sculptural decoration as preserved in the British Museum can now be completed (A. H. Smith, *Catalogue of Sculpture* II, pl. x and xi). One of the officers of the king, Persian in costume and stance, is treated in a purely Greek fourth century style (pl. 122, fig. 14).

"This date is confirmed for the entire necropolis complex by the discovery of Kertsch style vase fragments. Some monuments, however, go back further, especially the mid-sixth century Lion Tomb (which we are restudying) and the previously known sarcophagus with the relief of two lions assaulting a bull. We have reconstructed part of its lid (sphinxes in ogival panels, pl. 122, fig. 15; scene with a funeral couch on the long side). Probable date 480-450 B.C.

"4. We have of course resumed the study of the Nereid Monument in view of a new publication. Our predecessors (from Fellows to Niemann, Krischen and Miss Carla Gottlieb) had to limit their studies to the fragments in the British Museum and those visible on the surface at Xanthos. The South slope at the base of the monument, however, is strewn with blocks, which we have cleared (pl. 122, fig. 16) and which I have begun to classify and study with our architect M. Coupel. Although the sculptural finds are of little importance, the architectural data are first rate. Some results can be given. It seems clear to me that the marble podium had only three courses, two of which had sculptured relief. We have found fifteen blocks of the third course, of 1.015 m. height. We have identified many fragments of the cornice of the podium and of the order of the temple. The height of the dentils, hitherto conjectural, is 0.175 m. The plan of the cella we shall be able to restore beyond doubt. Almost all the elements of the cella door have been found: jambs, lintel and cornice. Its width is 1.34 m.

"Soundings have been made in various points of the Hellenistic and Roman city and in the outlying cemeteries. We shall soon have finished the archaic and classical cities and their cemeteries, however. We expect to complete the excavations on the old acropolis in the fall of 1956 and also to bring the study of the Nereid Monument to a proper conclusion. Excavation reports are in preparation. The first volume will deal with the Pillar Tombs of Xanthos."

Professor Arif Müfid Mansel of the University

of Istanbul continued his excavations and explorations in Pamphylia in September-October 1955. In SIDE (cf. *AJA* 59 [1955] 237-238) the excavation of the Nymphaeum was completed. Many architectural fragments and inscriptions were found on either side of the building. It is hoped that the architectural remnants now suffice for a reconstruction on paper, and that further study of the epigraphic evidence will provide a more precise chronology for this important monument.

Three Nike statues of more than life size were found near the Nymphaeum in front of a semicircular tower of the city wall. One of these Nikai is well-preserved (pl. 123, fig. 17). The building to which these statues belonged could not yet be identified because of the thickness of the debris in this area.

More excavation was done in the theater in order to clear the façade of the scaena. Only a small stretch could be extricated from the masses of tumble and heavy architectural fragments of marble. A vaulted door in the façade gave access to the stage building. The lower storey is apparently in rather good condition. The work here will be continued in 1956.

The city-walls on the land side of Side, which are well preserved, were surveyed by Mübin Beken, architect of the expedition. They should provide a substantial contribution to the study of Hellenistic fortifications in Asia Minor.

In PERGE (cf. *AJA* 59 [1955] 237) work around the monumental arch at the rear of the oval court produced inscribed statue bases (of Nerva and Matidia) and numerous architectural fragments. Four Nike statues of less than life size must have decorated the corners of the attic or the pediment.

Part of the great colonnaded street was excavated. Here several statues and heads were found, among them a seated draped statue of a woman holding a child in her lap (pl. 123, fig. 18) and an excellently preserved portrait head of presumably the third century A.D. It is planned to complete the excavation of the colonnaded street next year.

The site of THEANGELA in Caria (a colony of Troizen, cf. Ruge, *RE* V A, 1373-1377; L. Robert, *Rev Phil* 10 [1936] 283) was chosen for exploration by Dr. G. E. Bean and Dr. Aşkidil Akarca of the University of Istanbul. An archaic kore in the British Museum (Pryce, *Catalogue of Sculpture* I, 1, B 319, 149f) comes from Theangela. During two weeks in September 1955 a rough plan was made of the city-walls. A three-room stone house was also recorded; it was in perfect preservation including the roof. Some years ago a red-figure Attic pelike and a Panathenaic amphora of ca. 400 B.C. had been found in a tomb. A plan of this tomb was made. It is within the city walls and of rectangular shape with a pitched roof. For similar Carian architecture cf. Maiuri, *Annuario* 4-5 (1921-22) 425ff. There do not seem to be prehistoric remains at Theangela.

The following report on the excavations at MILETUS was kindly written for us by Professor Carl Weickert.

"The excavations in the area of the Athena Temple at Miletus, started in 1938 (*Bericht über den VI. Internationalen Kongress für Archäologie 1939*, 325ff, pls. 24-25), were resumed in October-November 1955. Motor pumps were used constantly in order to investigate at a greater depth the Mycenaean settlement levels which had been noticed as early as 1903-1908 during the excavations of Theodor Wiegand. The level of the ground water is normally high in Miletus, and in 1955 several cloudbursts deteriorated conditions.

"The results of the new excavations are briefly as follows. The plan (pl. 125, fig. 27) shows the relationship of the excavated areas to the temple, to the Hellenistic house West of it and to the West market North of the temple (the plan is based on Th. Wiegand, *Milet* I, 8, pl. VII. The letters P denote drainage pools which were kept at the lowest possible level. Excavated areas are cross-hatched). South and Southwest of the temple three building levels were uncovered, each containing constructions marked by different hatching. Pottery fragments were plentiful, especially in the upper and best preserved level, and provide a chronological framework. The uppermost house 3 in squares GH XIV belongs to Furumark's III C 1 period; house 2 below that probably to III A 1-B although the sherds do not allow of a certain chronological separation between the two levels. House 3 of the upper level seems to have been destroyed before the end of the Late Mycenaean period. Many pithoi were preserved in this area belonging to houses 3 and 2.

"The most interesting house is the earliest house, 1. Its walls are distinctive by their thickness of about one meter and built of field stones (like those of levels 1 and 2). The sherds from here are of Furumark's categories LH I-II A and have among other designs spiral ornaments with superimposed white details; there are also sherds with white-on-dark wavy lines of the type found already

in 1938 (*Bericht*, pl. 24 top left), repercussions of Kamares technique. The thought of Crete (Cretan sherds were found in 1938, *Bericht*, pl. 24, left side, second row from top; cf. *Palaikastro* (*BSA* Supplementary Paper 1) 36, fig. 24 or *British Museum Vases* I, 1, A 663, 2, p. 109, fig. 138, Knossos; Mochlos, *AJA* 13 [1909] 298, fig. 19; *Gournia*, pl. VII, 40; VIII, 18; IX, 1) is reinforced by the presence of some excellent genuine Minoan sherds from the deepest stratum in square G XIV which have naturalistic plant designs done in a sketchy manner (cf. *BM Vases* I, 1, A 380, 4, p. 106, fig. 136. Melian imitations of such painted pottery are distinguished by the use of matt paint, e.g. *Phylakopi*, pl. XIX, 1 a-c). Unpainted domestic ware was plentiful near house 1; one vessel of this class was reminiscent of Kamares shapes. With the sherds came numerous fragments of fine well-preserved stucco on a hard mortar base with paint in white, red and black. The fragments unfortunately are too small to allow of an interpretation of the designs. These sherds and stucco fragments were found at a level —0.50 m. and below (using the zero mark of *Milet* I, 8, pl. VII). Further down lies a sand stratum which was noticed in all the drainage pools and elsewhere. There are sherds in it but they are too worn for identification. Perhaps more can be determined later in more favorably preserved parts of the settlement.

"Squares EF XIV contained a peculiar construction of mud brick of rectangular form with rounded corners. It consists of partitions between channels and is surrounded by a channel. The mud bricks are burnt and fused on the freestanding side walls and on top. This construction, like the building North of it belongs to the most recent Mycenaean stratum. Immediately over it lay a protogeometric lekythion of well-known form and decoration. The purpose of the construction is problematic. One would like to think of a potter's kiln with an irregular vaulted roof. Such a type, however, is not represented among the few Mycenaean potter's kilns known. The well which cuts through the construction is later.

"The importance of the settlement is hinted at by this house with its good wall paintings, by the connections with Crete and by the excellence and individual features of the pottery of the upper level. These suggestions are confirmed by the excavation to the West of the temple. In 1938 a trial trench made at the end of the season in square F XIII had revealed a short wall fragment of good building technique. This fragment now proved to be the Northern face of a wall over four meters thick. The South face of this wall is formed by a wall discovered by Wiegand about in line with the South stylobate of the temple. This large wall (shaded dark on the plan) runs under the temple, and a new piece of its South face could be followed under the South stylobate. The North face with two buttresses continues into the court of the Hellenistic house. If a fragment in square C XIII proves to belong, which is probable on the evidence of its level, the large wall can now be traced for over thirty-six meters. There is some evidence for its date. A terminus post quem is furnished by a small early Mycenaean sherd with superimposed white on dark paint, found at —0.60 m. in a drainage sump which had to be made in a damaged spot of the wall-core. An ante quem date is provided by a well-preserved stirrup jar found under the remains of a hastily built wall added to the North face of the thick wall. The decoration of this jar resembles Furumark motif 25, 15 most closely, i.e. III A 2. The large wall then was probably built in the period of house 2. Its further course and destination will have to be clarified in future excavations.

"In the area South of the temple the archaic stratum had mostly been removed by Wiegand so that little could be expected in the way of relevant finds. Only the area of the "kiln" was untouched (where the protogeometric vase was found). In the Western part conditions were better since the older levels were protected by a Roman pavement. The archaic stratum could also be expected to appear under the stylobate foundations of the South stoa of the West Market, square G X. In the West Market no Mycenaean was found, however. Archaic material was also encountered inside the temple near its Southwest corner. Little archaic pottery could be gathered from these restricted areas. The known East Greek types are represented, but a distinctive Milesian fabric cannot yet be recognized. Very fine and fragile fragments of cups with ring decoration could hardly have been imported from abroad and prove the existence of good pottery factories in archaic Miletus. Whether this city was situated in the same spot as Hellenistic-Roman Miletus is still undecided; but it has become more probable now.

"The archaic sanctuary of Athena must have been very rich. Within the few square meters ex-

plored inside the temple and South of the foundations of its monumental stairway many good pieces were found, e.g. three griffin protomes (one, hollow cast, of very archaic type), a Phoenician bronze relief with an embossed sphinx design, a large bronze support in the form of a lion's claw, etc. Below the West peristyle in square F XIII (where previously a tower had been thought to have existed through the archaic period) a doorsill of an archaic building appeared, to be investigated in a future campaign.

"As for the protogeometric to late geometric periods, much ceramic (although little architectural) evidence was gathered especially in the area of the West Market. A characteristic Milesian style becomes noticeable in the later development of this period, perhaps from the second half of the ninth century on. The ornamental repertory is not rich. Concentric circles, circles and rows of dots are popular, less so triangles, lozenges, simple meander ornaments. A late geometric bird bowl with hourglass motif is reminiscent of known Rhodian types. No complete vases could be restored yet, but the neck and shoulder part of a large geometric jug has local features in spite of an Atticizing first impression (stacked St. Andrews crosses filled with coarse dots framing meander panels). Wherever larger sherds allow an analysis of ornamental syntax, an impression of pictorial density is achieved not unlike Samian material (close filling of metopes with bands of ornament, frames of lozenge chains, cf. e.g. *AM* 58 [1933] 77, fig. 27). Rather many geometric sherds have traces of burning, suggesting several destructions by fire during these centuries. This may explain the existence of a geometric settlement on the slope of the rather far removed Kalabaktepe (*Milet* I, 8, pl. III. Unfortunately no sherds from this excavation have been published. They probably belong to the late geometric period).

"The ceramic evidence proves that the area around the Athena Temple was inhabited without interruption from at least ca. 1500 B.C. until Roman times.

"An extensive report on the excavations (which are to be continued in 1957) will appear in the *Istanbuler Mitteilungen* of the German Archaeological Institute."

At KLAROS a sixth excavation campaign was conducted from August 21 to October 3, 1955 by Professor Louis Robert, assisted by Madame Jeanne Robert and by Pierre Bonnard, architect. Professor Robert kindly contributes the following information (cf. *AJA* 59 [1955] 236-237).

The back of the temple of Apollo could be excavated thanks to the expropriation of two tobacco fields. The entire area of the temple is now cleared including the four corners. The length of the temple is 45.49 m. measured on the third step. The back part is badly destroyed. Not a single column drum is preserved, whereas the columns on the East side are in good preservation. Byzantine stone-robbers must have started their work by removing the West colonnade as well as the cella and pronaos walls. An inscription on one of the West steps seems to record the activities of two of them. For some reason or other their pursuit was stopped in the middle and front part of the temple. The krepis is well-preserved all around.

New fragments of the colossal cult-statue of Apollo were found, notably the right leg below the knee and the left arm (about 2 m. from the shoulder to a little below the elbow). Another female torso was discovered, this time to the left of the god, measuring about 2.30 m. from shoulder to knee. It is clear from imperial coins of Colophon that the two female statues represent Artemis to the right of the god and Leto to his left. This close correspondence between the actual fragments of the three cult-statues and imperial coins is an archaeological contribution to Colophonian numismatics, the only one, as hardly any coins have been found.

The complete clearance in depth of the subterranean adyton proved very difficult in view of the weight of the architectural blocks fallen and wedged under the vaults. In the back and narrowest part of the adyton, three bays have been cleared down to the pavement, partly with the aid of pumps. The well-preserved vaults are 1.68 m. high to the keystone. Many fragments of large statues were encountered, so far of no great interest. The right arm of the cult-statue (3.40 m. long) which had fallen on a collapsed vault and could not yet be moved, stopped work at this point.

In the front section of the adyton, especially cluttered with blocks, three bays have been cleared to water level. The two vaulted rooms were separated by a massive block of masonry of 2.70 m. thickness. Part of the fifth bay was dug where the door between the two halls should have been. In the front hall and in line with the axis of the temple and the continuation of the central corridor one came upon the vaulted door (about 1.60 m. high)

which pierced the masonry block tunnelwise. The passage was not entirely cleared to the back room because of water trouble.

The nature of the lay-out is clear: under the temple an artificial cave was created, illustrating Tacitus' words: "in specum descendit." One descended into this dark and probably suffocating basement by way of steep and initially winding stairs. Via a corridor (probably only 1.80 m. high and 0.70 m. wide) one proceeded some 30 meters through a labyrinth, changing direction seven times at right angles, to arrive in the first vaulted room, the height of which did not allow one to go upright, at the door of the inner sanctum where the prophet, bent, followed the tunnel of 2.70 m. length. In the second adyton, probably opposite the tunnel and at the base of the massive masonry supporting the statues, one expects to find the spring or rather the well from which the prophet came to drink.

Outside of the temple, some work has been done on the exploraton of the sanctuary. In the Southern section of the Sacred Road, nothing remains to be excavated. The excavation opposite the Southeast corner of the temple was widened. A preparatory trench was cut to facilitate the complete clearance of the altar next year. Deep soundings were begun West of the temple.

Hardly any inscriptions were found in the temple or the sanctuary.

In the area of old Colophon, a Latin dedication to Mithra was recorded. At Teos the general lay-out of the confused and elusive site has been studied. Some inscriptions were copied or checked for the Corpus now nearing completion. One unpublished inscription mentions queens of the Lagidai. Among the new inscriptions recorded at the Smyrna Museum is an epitaph of a gladiator *primus palus* with a representation of the palus and fifteen wreaths of victory.

An illustrated account of the excavations at Klaros was given by G. Klaffenbach in *Das Altertum* 1 (1955) 214-230.

Professor F. Miltner reports the following on Ephesus, where after a brief preparatory campaign in the spring of 1954 proper excavations were resumed by the Austrian Archaeological Institute in August-November 1955. Northeast of the church of Mary, in the middle of the Byzantine city a bathing establishment was cleared for the most part. A West Hall of over 40 m. length, closed by apses on the two short sides, seems to represent the atrium and apodyterium. The center of the building is a domed hall. As there are large fallen fragments preserved both of the corner apses and the arches, the reconstruction is certain, and important details can be gathered for Byzantine architecture.

Near the Library, a start was made with the clearance of ruins covering about 2½ acres. These turned out to be Thermae, and special technical information may be expected as two storeys are partly intact. The building seems to have been erected at the end of the 1st century A.D. and repaired in the middle of the 4th cent. A.D. by a Christian woman named Scholastikia. Her statue was found among other sculptural adornments in the large apsidal hall and has been set up again in its original location (pl. 123, fig. 19). Also cleared were apodyterium, frigidarium, caldarium, and ambulatory and the latrine. There are several reasons to suspect that we have to do with baths for women, perhaps of special medicinal significance.

West of the Odeum the cult-room of Hestia Boulaia was discovered (pl. 123, fig. 20). As this room is part of the Prytaneion, we now know the location of the political center of Lysimachus' city, which is equally important for the topography as for the history of Ephesus. Nearby a Nymphaeum of the Augustan period and an unexplained but originally Hellenistic construction were located.

Smaller investigations on the North slope of the Bülbüldağ, the long mountain ridge at the South edge of the city clarified the upper limit of the built-up area; and led to the discovery of a round tomb of the Augustan period, an early Christian chapel, and a cave which was remodelled in Byzantine times. Here graffiti attest the invocation of Paul as a Saint for the first time in Ephesus.

An Italian expedition of the University of Rome is reexamining the architecture of the Basilica of the Council, published in *Forschungen in Ephesos* IV, 1 (cf. *Anadolu* 2 [1955] 75-77).

Professor Ekrem Akurgal continued his excavations at Phocaea (*AJA* 59 [1955] 236). He kindly contributes the following report.

The location of the temple of Athena now seems ascertained. It stood on the rock platform at the tip of the peninsula. From its archaic level the following architectural fragments are now available: three fragments of capitals (two with pendant leaves, Lesbian kymation; one with Ionic volutes) and several fragments of columns with a torus base moulding, all of this in local Phocaean limestone. In style and period these fragments recall the

archaic temple of Artemis at Ephesus. Sima fragments of the end of the sixth century perhaps belong to a repair of the temple after the destruction by Harpagos. This same temple was probably rebuilt in Hellenistic times, as suggested by the presence of a Pergamene palm leaf capital. Hellenistic terrace walls seem to have supported a platform belonging to the temple on the plateau. In Roman times a marble temple was erected, most of which disappeared into a limekiln found *in situ*. Archaic architectural fragments were found reused as building materials for Roman constructions; and good fragments of Roman architecture suggest a vigorous late building period.

The ceramic record runs from late geometric through the classical periods. The most remarkable wares are East Greek sherds of the sixth century. The necropolis of Phocaea has not yet been located. Another campaign is to be conducted in 1956.

Professor Akurgal continues with the following on his excavations at Dascylium (Ergili, cf. *AJA* 59 [1955] 235f). At Dascylium the area of the basileia, the residence of the Persian satrap (Xenophon, *Hell.* 4.1.15) was approximately determined. A small stretch of its foundations was found and it is hoped that in 1956 what remains of the building can be exposed. The palace seems to have been of the Ionic order as all fragments in this area are Ionic marble blocks of the fourth century.

Some more bullae were found in the vicinity of the place where over two hundred of them came to light in 1954.

Two city walls have been identified, one perhaps going back to the time of Mitrobates (Herodotus 3.120), second half of the sixth century. This wall encloses a larger area of the city than the more recent wall, which is of Hellenistic construction and post-dates the capture of Dascylium by Alexander's army.

The preliminary reports on the excavations at Dascylium, Phocaea, Cyme and Cyzicus will appear soon in the new archaeological annual of the University of Ankara, which is to be entitled Anatolia (instead of *Annales Archaeologiae Ancyrani* as announced *AJA* 59 [1955] 236). In the first fascicle Professor Akurgal will also publish the oldest pottery fragments from Byzantium. These were found in the Sultan's Palace Court in 1937 by H. Th. Bossert and published in a rather inaccessible periodical. A late Protocorinthian aryballos supports the date given by Eusebius (659 B.C.) for the foundation of Byzantium.

In the Museum at Istanbul Dr. Aşkidil Akarca is working on the "Galatian" pottery excavated by Makridi at Akalan near Samsun in 1906 (cf. Th. Macridy-Bey, "Une citadelle archaique du Pont," *MVAG* [1907] 4). A considerable amount of unpublished material is at the Museum and promises to shed light on the origins and interrelationships of painted pottery fabrics belonging to Northern and Central Asia Minor.

The excavations at Nemrud Dağ were continued in the summer of 1955 (cf. *AJA* 59 [1955] 239f). Miss Theresa Goell kindly reports the following:

"One of our main objectives has been to discover a probable retaining-wall which encircled the base of the tumulus. In connection with this we were also curious to know how the participants at the celebrations of the cult of Antiochus went from court to court. We began by clearing the rock-cut stairway at the southwest corner of the East Terrace. Where this L-shaped stairway ran was problematic, for in previous seasons we did not find any clearcut evidence to indicate that it led to a Processional Way in the deep valley below the southern side of the tomb. It is on this side that the mountain is steepest. Our clearance, beginning at the lowest point of the stairway ramp, brought us almost immediately to a wide, heavy rubble stone path, roughly six feet wide, whose foundation also served as a curving retaining wall at the base of the tumulus. As far as we cleared it vertically, it is about six feet deep. Just before the path enters the southeastern side of the West terrace, the rough stone ceases and the Processional Way connects with the passage which runs between a spur of the mountain and the tumulus. Antiochus had chiseled away the mountain spur to make room for this passage (pl. 124, figs. 21 and 22). It gives access to the Nomos of Antiochus inscribed on the five bases of the colossal statues of himself and his gods. Emerging on the north side, it then proceeds on an incline to the rock cut North terrace. The side of the path abutting on the base of the tumulus has a curb of dressed limestone (pl. 124, fig. 23). This combination of Processional Way and retaining-wall gives a very impressive outline to the unified monument and helps one to visualize the passage of the pilgrims from one court to another.

"In 1953 we had begun with a narrow, shallow

trench behind Zeus Oromasdes of the East Terrace in order to find the retaining-wall of the tumulus on this side. We also hoped to bring to light some hint indicating the position of a tomb entrance leading into the core of the tumulus. In 1954 we continued this trench and found a sloping stepped revetment lying against the rock core of the living-mountain. In 1955 we widened this trench and continued in height to about one-third up the slope of the tumulus. The stepped revetment continued in height and width under the surface rubble of the tumulus (pl. 124, fig. 24).

"What we had suspected to be a passage or dromos in 1954 did not materialize. The cavity had been made by previous explorers who had tried to penetrate the core of the mound in search of the tomb proper. We doubt very much whether they ever reached the tomb.

"On the North terrace we continued to clear the sandstone walls which we reported in 1953 as perhaps belonging to the dwellings of the priests. The East to West wall, about 85 meters long, has an opening in it a few meters to the south of a stone cut passage on the northern edge of the terrace, leading up from the Kahta Çay (Nymphaios) valley. A detailed examination of the sandstone walls lying directly to the east of this passage as it emerges onto the terrace level revealed the wedge-shaped base for a colossal sandstone statue, probably a guardian eagle, facing west. The statue had fallen over toward the west and is in bad state of lamination and decomposition. In the 1956 season we plan to treat it technically in order to harden what remains and lift it to determine the nature and dimensions of the Guardian figure.

"It apparently had a companion, for in 1954 we found scattered fragments of sandstone on the northwestern slope below the West terrace. Assembling some of the parts produced what seemed to be the back of a two-headed lion, which we thought had been pushed down from the upper level of the terrace. In 1955 we made a minute examination of additional fragments scattered about, and we were rewarded with the exciting discovery of a third head (pl. 124, figs. 25 and 26). Naturally the first image that comes to mind would be Cerberus, but a comparison with the Guardian Lion of the West Court (*AJA* 59 [1955] pl. 70, 5) rather confirms that the figure represents a three-headed lion.

"Just to the East of the scattered remains of the lion is a colossal platform made partially of sandstone blocks and rock cut limestone. We also ascertained that the Processional Way with its Greek inscribed stele II, discovered in 1954, marking the Propylaea road to the West Terrace, did not enter the West Court on its southwestern side. The actual entrance evidently was somewhere near the three-headed lion, which seems to have guarded it.

"One of our chief objectives in working on Nemrud Dağ was to make a complete record of the inscriptions still remaining there. We have now complete copies of the Nomoi of the bases of the colossal statues of the East and West terraces. They were made in latex by Mr. Kermit Goell, who has further developed this technique in covering large areas in one piece impressions.

"The 1955 excavations were again conducted under the Auspices of the American Schools of Oriental Research with funds granted by The Bollingen Foundation, Inc."

BRYN MAWR COLLEGE

Spirally Fluted Columns in Cyprus

J. L. BENSON

PLATES 126-127

I am deeply indebted to Mr. J. S. Last, of Episkopi, without whose tireless co-operation this paper could not have been written. He is responsible for the descriptive table and for the excellent photographs. Likewise, I am most grateful to Prof. R. Stillwell for allowing me to publish the theater column in advance of his own publication of the theater; and for helpful suggestions. Also Mr. A. H. S. Megaw, Director of Antiquities in Cyprus, has been most kind in allowing me to discuss columns in sites under his supervision. Others who have helped me are mentioned in the text or the footnotes.

More than a century ago, some spirally fluted columns: *einige spiralförmig cannelirte Säulen aus bläulichem Marmor*, were observed among the ruins of the city of Curium, on the southwest coast of Cyprus. Their observer was Ludwig Ross,[1] that nineteenth century Pausanias. It is not possible to be certain from his statements exactly where the columns lay. They are described as being at the inner end of the city.[2] This presumably means at the east or southeast end, which would be in the general area of the theater, although Ross does not bring them into connection with the theater but rather, by implication, with the better residences. Neither does he give their size. Still, it is quite possible to relate the situation described by him to the known situation today.

The present facts as I know them are as follows. On the site of Curium there are two examples of this type of column. One good-sized fragment of a rather large spirally fluted column, D (pl. 126, figs. 1 and 2), is lying in the orchestra of the theater. This may possibly have been one of those seen by Ross, although his own statement, as noted, does not constitute evidence for this. According to the foreman, Christos Grigoriou, of the Curium Expedition of the University Museum, Philadelphia, which excavated the theater in 1934, the column in the orchestra was actually about one-third above ground, but virtually hidden by underbrush, at the time of the excavation.[3] Another fragment of a considerably smaller column, C (pl. 126, fig. 3), lies now in open ground about one hundred yards south of the basilica and has, perhaps, always been visible. However, this is at a considerable distance west of the area where Ross presumably saw the columns he mentioned.

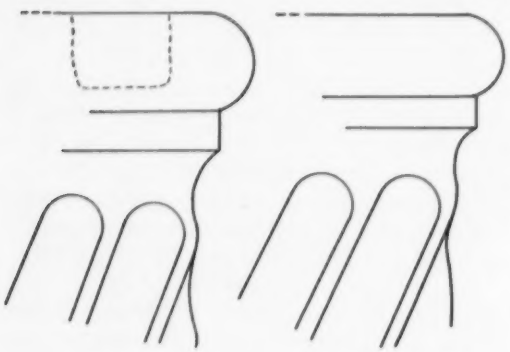
Ross's statement would suggest that he saw more than the two widely separated fragments now on the bluff of Curium—if, indeed, he did see either of these. What, then, has become of the columns which were at the site a century ago? One should perhaps first of all point out that from Ross's vague report it is not necessary to assume that there were actually very many—or any—complete columns lying about. He may have seen only some fragments. Fortunately, it is possible to point to several fragments of spirally fluted columns in the nearby village of Episkopi, Limassol. There can really be no doubt that these fragments were carried off by villagers sometime after the visit of Ross and before the scientific excavation of the theater. One drum, E (pl. 126, fig. 4), is in the very courtyard of Curium House, residence of the late G. H. McFadden and formerly headquarters of the Curium Expedition. This piece lay there when the site of the house was still an open field. The above-mentioned foreman, Christos Grigoriou, tells me of a tradition, which he heard from a Turkish patriarch in the village, that the drum was brought there from the theater about sixty years ago. If this is so, then it was probably intended for use in a house which for some reason was never constructed. The story gains greatly in credence from the fact that a large fragment, F (pl. 126, fig. 5), which is apparently identical with the orchestra column, is actually in use as a pillar supporting the porch of a Turkish house in the village. Finally, there is a small fragment, G (pl. 126, fig. 6), lying at the southwest corner of the Church of Ayios Ermoyenis. This church is on the coastal plain below the acropolis of Curium. The material and dimensions of E, F and G tally very closely with those of D, in the

[1] *AZ* 3 (1845) 101. L. Cesnola, writing some decades later: *Cyprus, Its Ancient Cities, Tombs and Temples* (London 1877) 300, speaks of seeing "shafts of columns, either in marble or granite . . . lying half buried in the ground," but does not specify spirally fluted columns.

[2] See plan in *RE* s.v. "Kurion" (Oberhummer).

[3] No mention of this occurs in the field notebooks. Dr. B. H. Hill, who was director of the expedition, informs me that it is also his impression that the column fragment was found in the orchestra. For the theater, see *UPMB* 14, No. 4 (1950) 27ff.

theater, as can be seen in the table below. A drawing of the capitals of D and F shows their identical cut. A thorough canvass of the entire neighborhood might produce additional examples of the sort presented above.



Theater D Turkish House F
(Scale 1/4)

But the story does not end here. At some distance to the northwest of the site of Curium, lying in the vicinity of the Sanctuary of Demeter[4] are two more drums of spirally fluted columns, A and B (pl. 126, figs. 7-8). The material of these two, which may or may not belong together, is reported as basalt of fine gray-black(?) color, rather like slate. The color and material, as well as the type and number of channels, set these off distinctly from those previously discussed. Moreover, they do not fit Ross's description of bluish marble. This does not mean, of course, that they may not have some connection with the theater. Such a connection is, in fact, likely as there is nothing to suggest that they had any connection with the sanctuary. Unfortunately, Ross did not mention them, and even village tradition is totally silent on the subject.

Before discussing the historical use of the columns, I present a statistical description of them in the table at right (by J. S. Last).

There can scarcely be any doubt that the columns in and from the orchestra originally formed part of the *scaenae frons* of the theater during the Roman period. It is not my purpose to enter here upon a discussion of the nature of this *frons*, which will be treated in detail by Professor Stillwell. It will suffice to state that he considers the Roman façade to have existed during the third century and possibly even the late second century A.D., and that there are, outside Cyprus, at least two roughly contemporary analogies for the occurrence of spirally fluted columns in the backdrops of Roman provincial theaters: at Termessos[5] and at Sabratha.[6] Within Cyprus, a most interesting parallel occurs in the Roman theater at Soli.[7] Thanks to the generous co-operation of Dr. Olof Vessberg, I am able to publish excellent photographs of a fragment (pl. 127, figs. 9-10), now in the Medelhavsmuseum in Stockholm, from that site. The dimensions given,[8] as far as I can judge, put this piece roughly

		LONG AXIS		CROSS SECTION		
Column	Material	Pres. length	Length between centers of arrisses	Diameter between arrisses	Diameter between centers of arrisses	No. of channels
Demeter A	basalt	2.0 m.	.095 m.	0.59 m.	.084 m.	22
Demeter B	basalt	2.32 m.	.092 m.	0.58 m.	.075 m.	22
Basilica C	gray marble	.93 m.	.048 m.	0.26 m.	.033 m.	20
Theater D Curium	"	1.86 m.		.37-.43 m.	.054 m.	24
House E Turkish	"	1.64 m.		.40 m.	.061 m.	24
House F Ayios Ermoy.	"	1.57 m.		.40 m.		24
G.	"	.4 m.	.058 m.	.39 m.	.055m.	24

Dimensions are multiple measurements averaged. Comments: One end of A is broken.

Both ends of B are flat. One end has a recess .06 m. square and .04 m. deep.

Present length of C includes base. Both ends flat.

Present length of D includes capital; lower end broken.

Both ends of E squared; round hole at center of one end with a diameter of .04 m. and a depth of .06 m.

Present length of F includes capital; lower end broken. It was not possible to measure diameter between arrisses accurately or examine capital top for hole. It appeared to taper slightly but perhaps did not.

Both ends of G are broken.

G and C twist in the opposite direction to the others.

[4] Cf. *RE*, *loc.cit.* (2214); most recently, a short discussion in J. and S. Young, *Terracotta Figurines from Kourion in Cyprus* (Philadelphia 1955) 224. The relative location of the sanctuary can be seen in the plan on p. 8.

[5] K. Lanckoronski, *Städte Pamphyliens und Pisidiens* II (Vienna 1892) 95, fig. 53; 97, fig. 55; pl. XI.

[6] *Africa Italiana* (*Rivista di Storia e d'Arte a cura del Ministero delle Colonie*) III (1930) 20; VI (1935) 37, fig. 2.

[7] *The Swedish Cyprus Expedition* III (Stockholm 1937) 562. Prof. E. Sjöqvist kindly called my attention to this reference.

[8] Dr. Vessberg has supplied the following details: "The height of the whole piece is 32 cm. The upper shaft tablet: Diam. 34 cm. Height, 3.5 cm. Upper diam. of the shaft, 29.5 cm., lower diam. 31.0 cm. The grooves were 20-21 in number, are 2.6-2.8 cm. wide and 1.0 cm. deep. The ridges between the grooves are 0.6 cm. wide. The material is a rather

in the class of Curium C, although its color is presumably darker than that of Curium C. According to Gjerstad, spirally fluted columns were represented at Soli in types which could have been used for flanking niches in the wall (Type 3) or on the lower story (Type 1) of the *scaenae frons*.[9]

The original use of the fragment found south of the basilica[10] must remain in doubt. Its relatively small diameter, and its flaring base worked out of the same block may at least leave open the possibility that it had a function not strictly architectural, for example, as supporting member of a ciborium,[11] or as a pedestal. There is, of course, no way to date the piece at present. Comparable fragments have been found at Antioch.[12] No. 157 is much smaller, No. 159 is somewhat smaller. This latter may have had an architectural function as it was found in a villa. The largest fragment of all, No. 158, about the same size as the Curium theater fragment, has a flared base and is almost certain, from its size, to have been used architecturally. No. 156, a colonnette, resembles the ciborium pillar illustrated on a pyxis of the Basilewsky Collection.[13] Unfortunately, the find circumstances of all these pieces assist very little in determining their original use.

Spirally fluted columns were also in use at Salamis, on the east coast of Cyprus. A large column is said to be built into the Church of St. Barnabas.[14] Two fragments of blue marble of considerable diameter (one foot, seven inches) were found in the so-called Temenos of Zeus during the excavations of 1890.[15] Through the kindness of Mr. Vassos Karageorghis of the Cyprus Museum, photographs[16] of these—including two additional fragments, or the originally reported fragments broken up—are reproduced here (pl. 127, figs. 11-12). These examples, taken together with the Curium and Soli ones, suffice to establish the claim of Cyprus to a widespread use of this type of column in ancient times. That the tradition never entirely died out can also be shown by a single striking example out of probably many which could be collected: the Renaissance Baldachino at Aschelia.[17]

One of the purposes of this note is to draw attention to the need for a comprehensive study of spirally fluted columns as a cultural manifestation in Europe from Minoan to Baroque and even later times. Victor Chapot[18] made a very useful compilation of (exclusively ancient) materials some fifty years ago; but more has accumulated and perspectives have changed since then. A general survey of occurrences in medieval times is given by V. Mortet (s.v. *colonne*) in *Dictionnaire d'Archéologie Chrétienne et de Liturgie*; but a comprehensive work, which the present writer proposes to undertake, is lacking. One of the many tasks of such an undertaking would be to consider the significance of spirally fluted columns in theaters and their possible connection with the palace architecture presumably reflected in stage settings.[19] Another would be to retrace the steps by which this unusual type of column became firmly rooted in the repertoire of Christian art.[20]

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dark grey-blue marble." A downward flare of the fragment, only barely perceptible in the photograph, supports Dr. Vessberg's designation of the worked end as an "upper shaft tablet." Otherwise one might be tempted to regard it as a base.

[9] *The Swedish Cyprus Expedition* III, 570.

[10] Of course, no positive relation between this fragment and the basilica has been established but one might be expected. It is to be hoped that the researches of A. H. S. Megaw on this building will throw more light on the matter. There is a brief note on the basilica in *UPMB* 7, No. 2 (1938) 3-4.

[11] For an illustration, cf. *DACL* III, 1595. Ciboria existed as early as the fourth century A.D.; cf. *ibid.* 1589; cf. also U. Monneret de Villard "The Temple of the Imperial Cult at Luxor," *Archaeologia* 95 (1953) 103.

[12] *Antioch on the Orontes* III, ed. by R. Stillwell (Princeton 1941) 164 and pl. 39.

[13] *DACL* III, 1595.

[14] V. Chapot, *La Colonne Torse et le Décor en Hélice dans l'Art Antique* (Paris 1907) 130.

[15] *JHS* 12 (1891) 115.

[16] By permission of the Department of Antiquities, Cyprus. Length of the three main fragments is given as 1.45 m.; diameter of all fragments as .49 m.

[17] D. Hogarth, *Devia Cypria* (London 1889) plate opposite p. 45.

[18] *op.cit.* It would be particularly desirable to bring Chapot's list of actual monumental remains (p. 123ff; cf. also p. 88)—as opposed to representations, models, etc.—up to date. For example, recent excavations in Pompeii have pushed back to at least A.D. 79 the occurrence of spirally fluted columns in actually known buildings: *ILN* (Nov. 6, 1954) 802, fig. 2. Apparently numerous fragments exist in Cyrenia: cf. B. Maioletti, "Le Fonte dell' Architettura Romana in Cirenaica," *Revista delle Colonie Italiane* 4, pt. 2 (1930) 585, pl. N. The references to Salamis, Soli, Sabratha, Curium and Antioch in this paper should also be added.

[19] I am grateful to the late Prof. E. Baldwin Smith for discussing this problem with me. For a recent treatment of stage settings, see A. M. G. Little, "A Roman Sourcebook for the Stage," *AJA* 60 (1956) 27-33.

[20] Prof. Sjöqvist has called my attention to a recent local study of this sort: J. B. Ward Perkins, "The Shrine of St. Peter and Its Twelve Spiral Columns," *JHS* 42 (1952) 21-33.

News Letter from Rome[1]

A. W. VAN BUREN

PLATES 128-135

Diffugere nives, redeunt iam gramina campis, arboribusque comae.[2] The atmosphere, however, of *primavera* in which those in Rome have been granted the privilege of celebrating the Parilia—the Birthday of the City—must not induce forgetfulness of the distressing fact—a disastrous episode in the history of the ancient monuments—that the rigorous weather of the recent months of February and March has caused serious damage to the delicate wall surfaces which the activities of several generations of excavators had left exposed to the infiltration of rain water, its subsequent freezing, and the consequent dislodging of the surface layers, whether of stucco, of brick, or of small stones set in mortar. The Poet's consoling thought, *Damna tamen celeres reparant caelestia lunae*, unfortunately does not apply to man's creations—it is the penalty imposed by Nature upon the structures of Ostia and Pompeii, in return for their normal immunity from frost, that when icy conditions do occur the toll is heavy.

Before these lines appear in print, the marble plan of Rome should be available in a new edition embodying the results of some years of investigation on the part of the archaeological services of the municipality.[3]

At the Palatine and the Roman Forum, Dr. Gianfilippo Carettoni is continuing both the measures to protect important monuments from further deterioration and at the same time the investigation of the deep-lying remains from the earliest period.

In the travertine pavement of the Forum, the well known inscription of L. Naevius Surdinus, *CIL*, VI, 37068, has been completed and reconditioned, with bronze letters inserted in the cavities.

In the zone of the Niger Lapis, soundings in the layers upon which the archaic monuments rest have yielded a clear stratification and demonstrated the chronology of the inscribed stele, the cone, and the shrine with rectangular base at its back. At every point where soundings were made, it was ascertained that the uppermost stratum beneath these monuments contains material which does not descend in time later than the sixth century B.C. On the other hand, these excavations have failed to produce fresh evidence as to the purpose of the monuments themselves.

On the Palatine, a start has been made with the excavation of the zone to the south-west of the House of Livia; and the Istituto Centrale del Restauro has detached the painted wall-surfaces of the Domus Transitoria (beneath the triclinium of the Flavian palace), which had begun to threaten rapid deterioration. These, when reconditioned, are to be installed in the Antiquarium of the Palatine.

Science has been the gainer from utilitarian digging in preparation for underground passages at Piazza Colonna and Via Florida where it starts from the Largo Arenula: these undertakings have laid bare some structures which will deserve a record in future plans of the Campus Martius and the porticoes of Pompey. It is understood also that near the second-mentioned site the remains of another temple, in addition to those tentatively assigned to the temple of Bellona, have been found.[4] The recent lowering of the street level at Porta Maggiore has increased the impressiveness of that structure.

An item of news of outstanding interest comes from *Roma Sotterranea*.[5] A short distance outside the city, near the Via Latina and actually on the present Via Dino Compagni, a catacomb has been discovered, at a depth extending to a water level

[1] The most recent installment of these reports appeared in *AJA* 59 (1955) 303-314, pls. 85-92. Several of the items recently reported have since received fuller presentation through official channels such as *NS* and *BdA*. A number of important projects continue to benefit from funds allocated from the *Cassa per il Mezzogiorno*.

For material generously communicated on the present occasion with permission to publish, sincere thanks are due to Messrs. F. Barreca, J. Bayet, L. Bernabò-Brea, G. Caputo, M. Cavalier, G. Carettoni, A. de Franciscis, A. Degrassi, A. Di Vita, G. V. Gentili, N. Lamboglia, F. Magi, A. Maiuri, V. Panebianco, G. Rizza, P. S. Sestieri, J. B. Ward Perkins.

[2] Hor., *Carm.* 4.7.

[3] Published by the Libreria dello Stato.

[4] *AJA* 53 (1949) 376-7; 55 (1951) 172, pl. 10, C.

[5] Communication of the Rev. Father Antonio Ferrua S. J. presented at the meeting of the Pontifical Roman Academy of Archaeology on April 5, 1956; article by Professor Carlo Cecchelli in the Roman newspaper *Il Tempo*, April 6.

21 meters below the surface of the ground. It differs in several respects from the usual type: instead of tortuous galleries, it presents a formal plan with a main axis of ca. 50 m. and a transverse axis of ca. 27 m., off from which open both rectangular and polygonal rooms, the greater part of which are stuccoed and painted with, at times, a high degree of artistic skill; the date appears to be the latter half of the fourth century of our era. This was not a catacomb with especially sacred associations like those administrated by the Roman Church but, in view of the effort involved in its excavation and adornment, it would appear to have belonged to some wealthy family. Most regrettably, the present investigators had been preceded by treasure-hunters who wrought incalculable damage in their ill-judged search for what they considered valuables, and thus probably destroyed inscribed slabs and other indications of date and of the social standing and cultural attainments of the owners and those buried with them.

The long series of wall-paintings thus unexpectedly revealed include many which portray Biblical subjects, largely from the Old Testament but some Christian motifs as well, such as Christ between Saints Peter and Paul, and Christ and the Samaritan woman at the well; many also in the pagan tradition, such as the Labors of Hercules and the story of Alcestis. These latter, however, while in form embodying the heritage of classical antiquity, were susceptible of an allegorical interpretation in the Christian sense.

Other representations, at first sight obscure in meaning, will doubtless form the subject of animated learned discussion: a demonstration in anatomy, possibly marking the burial place of a professor of medicine; soldiers beside a monument, and nearby a money jar—perhaps an episode of the Crucifixion? The catacomb, however, has not yet been completely cleared, as certain parts are still choked by the masses of earth that have collapsed into it, and there may still be surprises in store, and some additions to the pictorial repertory.

News from the Vatican Museums concerns the fortunes of two important sculptural compositions. Several years ago, the Vatican had presented to the Italian State its well known slab from the Ara Pacis Augustae; now the Commune of Rome has presented to the Vatican the slab in its own possession which had been unearthed in public ground just outside the area of the Palazzo della Cancelleria Apostolica that yielded the other members of a Flavian relief composition.[6] The two gifts were motivated by a desire to assemble the *disjecta membra* of two notable historic monuments.

Considerable anxiety has recently been expressed in Rome regarding the threat to the amenities of the Via Appia, especially in the zone of the tomb of Caecilia Metella, implicit in current industrial and housing developments. It is feared that this picturesque landscape, familiar to successive generations of tourists, may not long retain unspoilt its peculiar charm.[7]

To proceed further from Rome: The laborious undertaking of reconditioning the sanctuary of Fortuna at Praeneste, together with the reinstallation of the museum at the upper Barberini Palace, including the famous Nile mosaic (now thoroughly cleaned and reassembled, but in the process, distressingly large areas of its surface have proved to be non-ancient), has now been completed, and the formal inauguration was held on May 23, 1956.[8] A position of distinction has been achieved by a hitherto neglected colossal draped marble female figure—headless, armless and otherwise poorly preserved—which is now recognized as showing close similarity to the Nike of Samothrace, and is to all appearance a Hellenistic original. It may well have been the cult statue of the sanctuary.

The fitting moment has not yet arrived for recording the extremely important developments at Pompeii: the large-scale excavation in progress in the south-eastern sector of the city and the vast burial area outside the walls adjoining it. Attention may properly be called to the new organization, *Associazione Internazionale Amici di Pompei*, with its twofold mission of encouraging the cultural evaluation of this unique site and of obtaining funds for the maintenance of the already excavated quarters of the city. Further information in this regard may be obtained from the *Segreteria* of the Association at the Museo Nazionale, Naples. The official residence is at the Antiquarium at Pompeii itself. The readers of these lines will doubtless include many who will feel that membership in the

[6] F. Magi, *I rilievi flavi del Pal. d. C.* (1945).

[7] The present situation, and projects for protecting the landscape, were illustrated in an exhibit at the Palazzo Venezia of Rome in April-May of this year: illustrated catalogue, *Mostra della via Appia Antica*, published by the Soprintendenza ai Monumenti del Lazio.

[8] For the vicissitudes of this site, see *AJA* 52 (1948) 505-508; F. Fasolo and G. Gullini, *Il Santuario della Fortuna Primigenia a Palestrina* (1953).

Amici di Pompei is a suitable means of expressing gratitude to the Administration and the individual scholars who by their labors have placed the learned world under obligation, and at the same time of furthering in a practical manner the interests of science and culture.

Meanwhile, the significance of Pompeian studies was formally attested at the annual meeting of the Accademia dei Lincei on June 9, 1956, when the octogenarian Matteo Della Corte received from the hands of the President of the Italian Republic the "Premio Gronchi di Archeologia" in recognition of his lifelong contributions to the interpretation of the city.

The account generously supplied by Professor Pellegrino Claudio Sestieri, Soprintendente for Lucania, starts with the welcome news that the Roman villa at Minori[9] has already for its greater part been liberated from the deep layer of detritus which had buried it during the cloudburst of Oct. 26, 1954.

Paestum and vicinity have witnessed the systematic progress of the several undertakings so successfully developed during recent years.[10] The excavation of the sacred area of the city has been carried forward, and it has proved possible to establish the fact that this zone, in the Roman period, had lost its exclusively religious character, and numerous houses had been built there, scanty remains of which have survived. It is clear that this being the highest part of the city, and hence having escaped the infiltration of the neighboring marshes, it had been eventually utilised for civilian habitation at the sacrifice of installations of a religious character with the exception of the underground edifice that was discovered in 1954 and, naturally, the monumental temples.

Valuable results have been accomplished through the exploration of the burial areas surrounding the city. Some 400 tombs have been discovered to the north of the circuit of walls, in the regions "Andriuolo" and "Laghetto," belonging to the Greek, Lucanian and Roman periods. The first two of these classes are mostly *a cassa*, or *a fossa*, being excavated in the layer of limestone, sometimes *a cappuccina* and constructed of tiles. Those of the Roman period are for the most part *a cappuccina*, often have their side walls made of bricks and stones, and are roofed by one or more slabs of limestone. Their furnishings consist of a lamp or of a vessel of coarse ware; those of the Lucanian tombs are in general very abundant. Two outstanding Paestan vases appear in pl. 128, figs. 1 and 2.[11] The Greek tombs, on the other hand, are often quite without equipment, or else contain only one or two lekythoi, with black figures or red in the severe style (pl. 128, fig. 3).[12] Some of the Greek tombs, however, contained Ionic vases decorated with plain black bands (pl. 128, fig. 4); while a plastic Ionic vase, representing a Siren (pl. 128, fig. 5), was a chance find.[13]

Two Lucanian tombs *a cassa*, with pent-house roof, had painted walls. The first, which had been despoiled, measured 2.20 m. in length and was perhaps intended for two bodies. On the short sides are represented, on the first, in a highly ruinous state, a red horse between two figures, of which only the lower portions remain. That to the right is a man, who clutches in his hand the tail of the animal; the other is feminine. It is not clear if this is one of the frequent scenes of greeting of the victorious warrior. On the opposite end, the deceased woman is shown seated upon a carriage with three-spoked wheels, which is drawn by two mules, one red in color, the other pink. These have their heads lowered and present a jaded appearance. This is clearly the representation of the Journey to the Lower World. On one of the long sides of the chamber, this too in a very ruinous state, there is a scene of *prothesis*, the central part of which is fairly well preserved. On the couch, which has moulded legs and a mattress with blue bor-

[9] *AJA* 59 (1955) 305.

[10] *ibid.* 305-6.

[11] Fig. 1: This Paestan hydria with the myth, apparently, of Electra, resembles in treatment the Berlin hydria of the Asteas group (Trendall, *Paestan Pottery*, p. 49, pl. XII, d). The woman's close-cropped hair would, in this interpretation, signify mourning; and the column would mark the grave of Agamemnon; the altar on which she is seated would have a more vague signification (these vase-painters may have allowed themselves some latitude); the hydria which she clasps would be the urn containing the simulated ashes of Orestes. The scene of recognition between Tyro and her two eldest sons has also been suggested; but the representation of this subject would surely have required the presence of the trough or other tokens of identification.

Fig. 2, a lebes gamikós, and its incomplete companion which was presented in *AJA* 58 (1954) 326, pl. 69, fig. 7, are among the most elaborate representatives of the class: Sestieri has published, in *Archaeologia Classica* 7 (1955) 1-8, pls. 1-4, a less attenuated one from the votive deposit of the "temple of Neptune," attributable to Asteas.

[12] Fig. 3, a black-figured pelike, shows the unusual subject of a girl flutist practicing under the supervision of her instructor.

[13] An identical one is in the Naples Museum: M. I. Maximova, *Les vases plastiques dans l'antiquité*, pl. 21, no. 85. The examples from Rhodes, *B.M.Cat.* I, nos. 75-78, are profoundly different in treatment.

ders, the deceased woman is laid out, and a fine female figure of an attendant is supporting her head and laying it upon the pillow; behind her is a flutist with long beard, and finally another bearded personage holding a whip in his hand. This last figure differs from the rest in being rendered entirely in red, whereas all the other figures are simply drawn in outline and then tinted with brush strokes: this fact, and the fact that he is grasping his whip in his right hand, lead one to think that he represents a death demon, who has come to set in order the *ekphorá* of the deceased. Finally, on the fourth side, which unfortunately has been almost completely obliterated, there is the extremely interesting representation of a four-horse chariot in full course, rounding the goal-post and thus presenting the horses in a bold foreshortening. This vivid scene is new, in contrast with those most frequent at Paestum, which show chariot races rigidly in profile, and it is probably derived from Tarentine prototypes.

The scenes in the second painted tomb, which are somewhat decadent artistically, do not vary from the familiar repertory: fights between boxers and gladiators, races between two-horse chariots, the Warrior's Return, a hunting scene. This last is almost identical with the representation of the same subject in a tomb which was found in 1954: hunter equipped with hunting-spear, pursuing a stag. In the new tomb a dog is represented, which has leaped upon the crupper of his prey, and is snapping at its neck; this detail lends greater vividness to the scene. Among the vases which constitute the equipment of this tomb is a calyx crater bearing on one side the figures of a girl and a Silenus beside a basin for bathing, and on the other side two ephebes conversing. It is in the style of Python, and hence the tomb can be dated towards the year 330 B.C.

Another interesting tomb has been discovered in the region "Fuscillo," to the south of Paestum, at a short distance from the "Tempa del Prete," where, in 1955, many burials were found.[16] Once more, it is a Lucanian tomb *a cassa*, with pent-house roof. It contained four Paestan vases of slight interest, but in addition to these the armor of a warrior. On his head was the helmet, adorned with wings, with three tubes for inserting feathers in the front, in the Italic fashion, and at its sides an open-work wave pattern. The cheek-pieces are movable, and show traces of incised decoration. On the chest and the back were the two identical sheets of the breastplate of Samnite type (pl. 129, fig. 6), with three convex disks, while at the level of the waist there was a bronze belt, the middle part of which is decorated in repoussé with the figures of a gazelle and a winged dragon attacking it. This tomb also can be dated at the beginning of the second half of the fourth century B.C.

Further to the south on the coast is PALINURO, the important developments at which were reported in these pages several years ago.[15] It will now be easy to study the site and its antiquities on the spot: the *Ente Provinciale per il Turismo* of Salerno has constructed a small villa, to serve as hostel. The ground floor of this building has been installed as an antiquarium, and its well lighted glass cases contain the principal vases from the equipment of the tombs that were excavated in 1948-1949.[16] The Attic potteries are represented by black-figured vases, mostly cups but also two craters and an amphora. Many vases are of Ionic style with painted bands, but the most numerous are the indigenous wares with geometric decoration (pl. 129, figs. 7, 8), similar in technique and decorative scheme to those found in the Vallo di Diano, especially at Sala Consilina and Padula.[17] A number of other sites in Lucania have been systematically investigated by the administration of the Museo Provinciale of Salerno (Dr. Venturino Panebianco, Director), under and in cooperation with the Soprintendenza.

At FRATTE DI SALERNO,[18] there has been identified the acropolis of the Etrusco-Campanian community to which belonged the archaic pre-Roman necropolis which was explored in 1927-1929, and the equipment of which formed the first considerable nucleus of the Salerno Museum.[19] The main features of the acropolis—both a fortress and a religious and civic center—have been established (pl. 129, fig. 9): they include two main streets, evidence for two temples, and a huge reservoir which, by means of a complicated system of channels, supplied a series of rooms apparently intended for the accommodation of pilgrims or initiates and for a ritual bath establishment. The final phase of the site is not later than the third century B.C., and hence precedes the definitive Romanization of this territory.

[14] *AJA* 58 (1954) 325-326.
[15] *AJA* 52 (1948) 509-511; 53 (1949) 380-381.
[16] *Boll. d'Arte* 33 (1948) 339-345. [17] See below, p. 393.
[18] *AJA* 51 (1947) 289-290; *Boll. d'Arte* 33 (1945) 335-338; 34 (1949) 343-351.
[19] Maiuri, *Studi Etruschi* 3 (1929) 91-101, pls. 11, 12.

In the interior, at PADULA (anc. Consilium) and the nearby locality Sterpone, three Graeco-Italic or Lucanian burial grounds have been found, the earlier one of great interest for the contacts in the sixth and fifth centuries B.C. between this region and the Greek communities to the south (pl. 129, fig. 10). At SALA CONSILINA, in the valley of the Tanagro, a vast early burial area has been partially explored (pl. 130, figs. 11, 12); it is already clear that this will require a series of campaigns for its full exploitation. Here again, the evidence is accumulating for the cultural relations above indicated.

Epigraphists are already familiar with the name of POLLA, through its well-known inscriptions, *ILS* 23 and 9390; and the mausoleum to which the second of these belongs has for half a century been recognised as an outstanding Lucanian monument, of the Roman period.[20] This structure has now been cleared afresh and rehabilitated; while investigations at the neighboring village of San Pietro have yielded sufficient architectural and epigraphical fragments to identify the place as a station on the highway which is now known to have been called Via Annia, where, on its course from Capua to Rhegium, it entered the northern opening of the valley of the Tanagro. The abundant material which has been yielded by the extensive undertakings in the valley of the Tanagro is undergoing restoration in a specially created laboratory in the Certosa of Padula, since it is hoped that it will soon prove possible to inaugurate in the grandiose setting of that edifice the first nucleus of the long-desired Museum of Lucania.

The Soprintendenza for the present Calabria, ancient Bruttium,[21] is developing a consistent programme for the exploration of that portion of Magna Graecia. At CROTON,[22] a start has been made with the full uncovering of the famous sanctuary of Hera Lacinia (Capo Colonna). Its monumental entrance has been completely brought to light and the plan of this with adjacent buildings has been more adequately revealed.

At LOCRI EPIZEPHYRII,[23] the Marazà site has been cleared, and further material recovered for the understanding of its two temples, including the great altar, 13 x 4 m., belonging to the Ionic temple (pl. 130, figs. 13, 14). Some 200 meters to the southeast a large paved area has come to light, and in the locality Centocamere, a spacious court enclosed on three sides by a series of rooms, and on its fourth side by a pottery with a well-preserved kiln; the area of the court yielded material in terracotta of various periods.

At VERBICARO SCALO (Prov. of Cosenza), a tomb was found to contain a gold ring, the bezel of which is described as bearing the representation of a draped Aphrodite (?) holding in her right hand a set of scales on the pans of which two Erotes are balanced. The date is considered to be towards the close of the fourth century B.C., but the publication of this ring will be awaited with interest because of the similarity of subject with that of the marble relief in Boston.

Previous accounts[24] have reported the significant developments in the valley of the river Trionto (anc. Traeis), with the identification at CASTIGLIONE DI PALUDI of a fortified site which it is tempting to recognize as "the fourth Sybaris." The exploration of this general area has been continued on a large scale with valuable results. It is clear that all this fertile plain was colonized and intensively cultivated by the Romans towards the end of the Republic and during the empire. Space fails for an adequate account of the circuit of walls at Castiglione di Paludi itself: we can only publish (pl. 131, fig. 15) the principal gate as it has now been revealed, for comparison with its appearance a few years ago.[25]

Numismatists will note with interest some recent accessions to the coin cabinet of the Museo Nazionale at Reggio di Calabria: a chance find at ROSARNO-MEDMA being a Syracusan decadrachm of Evaenetus type but unsigned, the obverse moderately preserved but the reverse badly deteriorated; from San Demetrio Corone, a small hoard in a coarse terracotta receptacle 15 items from mints of Magna Graecia ranging from the end of the sixth to the second half of the fourth century B.C.; from Strongoli, in a coarse jar, 13 coins of Magna Graecian mints of the second half of the sixth and the fifth centuries B.C.; from Crotone, in a terracotta vessel, 50 republican denarii of the period 112-64 B.C. (Babelon) or 91-77 B.C. (Grueber).

[20] NS (1910) 73-87. The re-appraisal of the evidence for highway and forum by V. Bracco, in Naples Acad. *Rendiconti* 29 (1954) 5-37, pls. 1, 2, is fundamental.

[21] Soprintendente, Dr. Alfonso de Franciscis, Museo Nazionale, Reggio di Calabria.

[22] E. Douglas Van Buren, *Archaic Fictile Revetments in Sicily and Magna Graecia*, 12-15.

[23] *op.cit.* 26-33; revetment, p. 104, geisa 5; pl. IX, fig. 36.

[24] *AJA* 55 (1951) 183; 58 (1954) 326f.

[25] *AJA* 58 (1954) 326, pl. 71, fig. 12.

A valuable addition to knowledge of the administrative hierarchy in the late fourth century of our era is reported from TRANI in Apulia: in July, 1955, a large base was extracted from the foundations of the campanile; it proved to bear a dedication by the *ordo splendidissimus Canusine* (sic) *civitatis* to *Cassius Ruferius vir clarissimus, consularis Apuliae et Calabriae.*[26] Professor Attilio Degrassi, who has kindly communicated this information, observes that the personage thus commemorated is the first *consularis* of this region as yet known; since at least down to A.D. 379 the region was administered by *correctores*. The base is later than that year, but probably not much later; it certainly originated at Canusium, a site which was abandoned by its inhabitants in the early Middle Ages and supplied building materials to the neighboring cities.[27]

We now record developments in the areas of the Italian peninsula lying to the north of Rome.

The extremely important undertaking of the British School at Rome is best described in the following statement, kindly communicated by its Director, Professor J. B. Ward Perkins, under the date of 14 May, 1956:

> Since the Autumn of 1954 the British School at Rome has been engaged in a programme of field-survey in that part of Southern Etruria which lies immediately to the north of Rome. By comparison with the Campagna east and south of Rome this is a district that has been strangely neglected by students of ancient topography, and the problem is an urgent one, since large tracts of Etruria are now being brought under cultivation by drastic modern methods, as part of a scheme of land redistribution unparalleled in scale since Roman times. The task is simplified by the use of a fine collection of air-photographs, taken by the Allied Air Forces during the war and now lodged in Rome for scientific purposes.
>
> The first task of such a survey is to establish the lines of the successive road-systems, and a surprising and unexpected result has been to show that not only can a great many of the pre-Roman roads be identified with certainty, but also that some of the more important of these are laid out and engineered on a scale unsurpassed by their Roman successors (pl. 131, fig. 16). Veii (destroyed in 396 B.C.) had a network of such roads radiating from it. They were designed to carry heavy traffic, with cuttings as much as 30 feet deep, bridges or hard-bottomed fords over streams, and in one case (at Pietra Pertusa, north of Prima Porta) a tunnel over 200 yards long taking the road through the ridge that later carried the Via Flaminia. Falerii Veteres (Civita Castellana), the inhabitants of which were forceably resettled at Falerii Novi in 241 B.C., is another site where the pre-Roman and the Roman pattern can be clearly distinguished.
>
> Another unexpected addition to our knowledge of the Etruscan landscape is the fact that the *cuniculi* of the Veii district are of Etruscan date and agricultural in purpose. Over a broad belt of country to the north of the ancient city, almost the entire surface-drainage is canalised into a network of underground, rock-cut channels, in some cases several kilometers in length, thus freeing the valley-bottoms for cultivation. This area is still today almost entirely free from the disastrous surface-erosion that characterises the surrounding districts.
>
> A useful start has been made on the recording of the very large number of Roman and medieval remains within the area. In some important respects the Middle Ages can be seen to represent a return to pre-Roman conditions. In Roman times there had been a steady drift away from the villages to small, isolated farms, or to new communities established beside the great trunk roads. With the decline of security this movement was reversed; the abandonment of Falerii Novi in favour of the more defensible Civita Castellana is symptomatic of what was happening all over the country-side. It is only in recent times that security and convenience of communications have once again begun to exercise a powerful influence in shaping the distribution of settlement.
>
> A first report has appeared in *PBSR* 23 (1955) 44-72, covering the Via Veientana, which is probably the principal road linking Etruscan Veii and Rome, readopted and paved in Roman times; and a stretch of the Via Clodia between La Storta and Bracciano, where it follows a line radically different from that hitherto accepted. The identification (and simultaneous destruction) of the second road-station out of Rome, Careiae (hitherto located at Osteria Nuova, half a mile distant), led to the discovery of a large hoard of Roman coins of the third century of our era.

For similar investigations in other areas of Southern Etruria, see John Bradford in *ILN* 6106 (June 16, 1956) 736-8; and his forthcoming volume, *Ancient Landscapes*.

From two sites some 15 miles to the north-west of Rome, TORRE IN PIETRA and PALIDORO, remarkable developments have been reported in the Roman press, according to which the former place has revealed not only an upper layer of sand and gravel containing "fossils of the Neanderthal Age," but beneath this and separated from it by a geological

[26] Published in the *Gazzetta del Mezzogiorno* of Bari for 23 July, 1955.

[27] This document is to be treated by Professor Degrassi in a forthcoming issue of the *Athenaeum* of Pavia.

stratum of volcanic matter, a lacustrine deposit in which fossils of formerly indigenous animals occur in the same general context as human artifacts—a documentation of the earliest known age of man. The finds reported from Palidoro occur in a cave, and are more recent in time, being assigned to the Middle Neolithic and Bronze Ages. The authoritative account of these outstanding discoveries, and of the further progress which may be expected, will be awaited with the keenest of interest.

The French School of Rome[28] has carried further, with success, its exploration of the vicinity of Bolsena.[29] The clearing of the archaic Etruscan settlement at La Civita by M. R. Bloch led, the past year, to the search for the hillside burial-grounds. The neighboring hill of La Capriola, thus approached, offered the rare surprise of a cemetery of the last Villanovan period (towards 700 B.C.), the greater part of the tombs of which—some of them *a pozzo*, the majority *a fossa*—were still intact, and lay at only a slight depth beneath the surface of the ground.

Enclosed by simple pebbles or chips of stone, the tombs had been filled with earth immediately after the burials and the deposition of the offerings, hence the necessity for an extremely painstaking procedure in extracting the objects. A very rich material has been brought to light: (1) a great variety of *impasto* wares, with geometric decoration either incised or in relief (pl. 131, fig. 17); (2) an abundance of iron weapons, especially thin-bladed knives; (3) an abundant inventory in bronze fibulae *a navicella*, sometimes admirably decorated; basins of flattened bronze; a sword-hilt with projecting horns and the remains of ivory decoration; a very remarkable little shield for display, recalling by the double recess of its contour the traditional shields of the Salii (pl. 131, fig. 18).

As Professor Bayet observes, there are obvious relations between the ensemble of this material and that from the Villanovan cemeteries of Vulci[30] and Bisenzio[31]—this latter site lying on the western shore of the Lake of Bolsena itself. Thus the characteristics emerge with clearness of the culture of the whole region in the First Age of Iron, just before the dawn of the Etruscan civilization. The problem of the origins of Volsinii no longer appears fundamentally different from that of the cities of the Tyrrhenian coastal area and vicinity—Tarquinii, Caere, Vulci. It will be for future campaigns of excavation to trace the relations, whether contemporary or successive, between the Villanovan settlement and the Etruscan establishment of La Civita.

The Soprintendenza for Etruria (Florence, Museo Archeologico) is maintaining its dignified traditions under its present Soprintendente, Dr. Giacomo Caputo. The organization of the vast ceramic material for which, among other things, Arezzo is famous is proceeding steadily, a striking episode being the recognition of a refuse dump from a kiln of Cn. Ateius, whose activity at this site is thus, at last, definitely attested. At the same time, a remarkable stretch of wall has come to light on the acropolis, below the Renaissance fortress. It consists of oblong stones, their ends cut obliquely, irregularly bossed, with resting surface slightly undulating; six courses are preserved, set in stepped fashion on roughly graded foundations which themselves consist of several courses of blocks. It is hoped that further investigations will render it possible to obtain a plan of the whole structure and ascertain its date.

It is, however, the hill of Fiesole which has been chosen by the Soprintendenza as the field for systematic research on a large scale. The investigation of the enigmatic structures which, for want of a better name, have been called "altars within sacred enclosures" has led to the conclusion that they served some other purpose, and perhaps were the bases of honorary statues or other commemorative monuments. The stratigraphic study of the layers still concealed by the stone pavement of this area may be expected to yield more definite data regarding the problem.

The portico adjacent to the temple seems to have been intended as a hospice for pilgrims, perhaps adapted for *incubatio*. A still more important result appears in our pl. 132, fig. 19. Beneath the walls of the well known temple itself are the structures of an earlier temple: the two periods thus revealed are matched by the two periods of the portico. Finds of small objects, and especially the votive deposit, indicate that the sanctuary was flourishing in the period extending roughly from the third to the first century B.C.; it had a single cella and hence cannot be considered a Capitolium.

Of occasional finds in Etruria, space allows the mention only of a bronze "parade helmet" of the first century of the Empire, with mask in the form,

[28] Information as to the French School's undertakings at Bolsena and at Megara Hyblaea has been generously communicated by its Director, Professor Jean Bayet.

[29] *AJA* 59 (1955) 307.

[30] F. von Duhn, *Ital. Gräberkunde* I, 303-310.

[31] *ibid.*, 329-338.

already known elsewhere, of a youthful Dionysus wreathed with ivy (pl. 132, fig. 20), from the locality Le Querciaiole near Serre di Rapolano (to the East of Siena); and, from the layers beneath the ancient slag-heaps at Populonia, the remains of the bronze structural and decorative details of an Etruscan chariot of the sixth century B.C., including the impressive head of a ram, the finial of the chariot-pole, shown on pl. 132, fig. 21.

In the water-logged zone near the mouth of the Po, the finds, especially Attic vases, from the various extensive burial-grounds attributable to the vanished community of Spina have continued with undiminished interest; the rich yield is installed in the museum at Ferrara; Professor Salvatore Aurigemma's large-scale presentation of the results of the earlier campaigns is approaching completion.

In the Venetic area, the town of Iesolo (territory of ancient Opitergium) yielded, in June 1955, the inscription shown on our pl. 133, fig. 22: a dedication of the first century of our era by a *collegium* of *magistri* consisting of three *liberti* and three *servi*; the latter include a Sinon, whose name, with unpleasant associations in legend, had hitherto been recorded only once as denoting an actual historical individual.[32]

Marzana di Valpantena, in the territory of Verona, which was already known as possessing various remains from Roman antiquity, yielded, in April 1955, a funerary inscription of two *liberti*, noteworthy for the rare *nomen, Depius*.[33]

The infrequency of sensational reports of discoveries in the north-western corner of the Italian peninsula should not lead fellow workers to overlook the valuable service to archaeological science which is being rendered by the *Istituto Internazionale di Studi Liguri*, which has its habitat at the Museo Bicknell in Bordighera: its publications, the *Rivista di Studi Liguri* and the *Rivista Ingauna e Intemelia*, present an admirable picture of work accomplished and projects under consideration.[34]

The field of interest of the Institute includes not only the Liguria of contemporary Italy, but a large extent of Southern France and Northeast Spain. Among its most recent achievements we can describe only two: the clearing of an important area of Albintimilium (mod. Ventimiglia), and especially the recovery of its Roman theater (pl. 133, fig. 23), including the demonstration that the upper part of the cavea was supported upon solid masses of earth which were packed in the four large spaces enclosed between stout radiate and annular foundation walls at the same time that these latter were being laid; and second, the initiation, in collaboration with the Soprintendenza for Liguria, of the exploration of pre-Roman Genoa, the *oppidum Genua* of the Ligures, extensive remains of which the first two campaigns, 1952-54, have revealed as existing buried beneath the Roman and mediaeval layers on and below the hill that includes S. Maria di Castello. A stratigraphic excavation of limited extent has yielded clear evidence for the successive periods, and it appears that the founding of the original port settlement was due to Ligures who, under Greek and Etruscan influence, established themselves there not earlier than the fifth century B.C. No objects found either in this inhabited area or in the already known burials antedate the closing years of that century. The name *Genua* is considered to be Ligurian; the place was rebuilt as a Roman city in 203 B.C. (Livy, 30.1.10).

This year as last, the extent and variety of the undertakings in Sicily have been such as to compel extreme conciseness in the News Letter. In contrast to a year ago, our report will be practically limited to eastern Sicily.[35]

The investigations at Naxos[36] have included the uncovering of a further stretch of the wall near the point of the cape (pl. 133, fig. 24), and also of a small rectangular edifice of the fifth century B.C., probably a temple, in that vicinity. At a point south of the Castello, thorough stratigraphical results were obtained by means of a wide trench; the successive cultures range from the Neolithic (pl. 133, figs. 25, 26), the Bronze Age (culture of Thapsos), the Iron Age (*impasto* with horn and button handles), down to four successive phases of building, which extend from the foundation of the Greek colony to the fourth century B.C. A well constructed street, following an altered alignment (pl. 134, fig. 27),

[32] *PW*, s.v. *ad fin.*

[33] Communicated, with the previous inscription, by A. Degrassi: it had been mentioned in *Vita Veronese* (1955) 222f.

[34] For its first congress, see above, p. 210.

[35] Soprintendenza at Syracuse: Soprintendente, Professor Luigi Bernabò-Brea.

As to western Sicily, Dr. D. Adamesteanu's informative account of his undertaking at Butera is expected to appear in *Archaeology*; also Professor G. A. Ruggieri's more general treatment of Motya and Lilybaeum. The year 1955 witnessed the appearance of the second edition of Pietro Griffo's *Nuovissima Guida per il Visitatore dei monumenti di Agrigento: La Zona Archeologica e la Città moderna*, with 63 serviceable illustrations.

[36] *AJA* 58 (1954) 329f; 59 (1955) 309.

appears dated later than the destruction of Naxos by Dionysios I in 402 B.C.; hence Dr. Gentili proposes, as a hypothesis pending further research and documentation, to recognize here the remains of the Neapolis attested by the unique Berlin diobol.[37]

At TAORMINA, the spectacularly situated great theater[38] has received a thorough reconditioning and partial restoration, which appears in our pl. 134, figs. 28-29.

At CATANIA, beneath a layer of lava which had flowed down from Etna, a quantity of clay vessels and stone implements belonging to a burial ground of the First Age of Bronze have been found, conforming to the cultural phase of Castelluccio.

From LEONTINI,[39] Dr. Giovanni Rizza reports a fifth campaign of excavation on a large scale. On the Colle San Mauro (the western acropolis), the excavation of the fortifications has been carried further, and the walls set in order, while the exploration of the burial area in the Valle San Mauro has been continued.

It is on the Colle di Metapiccola (the eastern acropolis), however, that the outstanding discovery of the year has been made: a Siculan village. Seven huts have been identified; of each of these, the sunken floor has survived, set into the level surface of the native rock. The huts had a rectangular form; the smallest measured 3.50 x 4.10 m., the largest, 10 x 5.10 m.; their floor was set into the rock to a depth varying between 20 and 80 centimeters. Along the edges of the cutting there were always holes, distributed at regular intervals and intended to contain the posts which served as framework for the walls; the number of holes varied in proportion to the length of the sides of the rooms. In four of these huts, one or more holes, situated along the middle, testified to the presence of posts intended to support the ridge of the roof, which one must imagine to have been of the penthouse type. In several instances it has proved possible to identify the situation of the entrance, which was shown by the presence of steps leading from the outer ground level to that of the floor of the hut. In one of the huts the entrance was preceded by four holes arranged so as to form a rectangle 0.90 x 0.70 m., and apparently intended to contain the posts to support a small roof which thus served as a rudimentary front porch. At the middle of this hut, near the central hole, a discolored area was found, consisting of earthy matter mingled with burnt remains, which indicated the place of the hearth; similar remains were found in three other huts. The plan and the system of construction of the huts which have thus come to light at Leontini, Dr. Rizza states, have no parallels in other Sicilian centers; but he observes that there is a close analogy between this type of construction and the huts of the First Age of Iron which have been revealed on the Palatine in Rome.[40] Hence they form a new link to be added to the connections recorded by the ancient writers between the Siculi and the populations of continental Italy.

Constructed over the remains of the prehistoric huts, several Greek houses of the sixth century B.C. were found, as well as the foundations of an archaic Greek temple, without peristasis, and divided into two parts by a transverse wall; its over-all dimensions were 32 x 10.60 m.

At AUGUSTA, a burial area of the first century B.C. has been found (Arretine cup of the fabric of M. Perennius); it continued in use for at least two centuries.

At MEGARA HYBLAEA,[41] the excavations of the French School of Rome, directed by MM. Vallet and Villard, were conducted during ten weeks of 1955, in April-May and September.

The clearing of the Hellenistic fortress, which was continued on its north and east sides, has disclosed another large square tower, divided like its fellows into four rooms, and a gate the details of which are clearly preserved. To the north it has been demonstrated that the Hellenistic wall repeated the line of the archaic rampart, thus supplying the first indication of the northern limit of the sixth-century city. Following a decision reached with the Soprintendente, Dr. Bernabò-Brea, the excavation was conducted stratigraphically clear down to the foundations; thus the fortification has been revealed, in some stretches, to a height of over three meters (pl. 135, fig. 30), and the discovery of numerous coins has made it possible to date the successive groups of farm buildings which eventually clustered about this circuit.

The process of classifying the materials used as

[37] G. E. Rizza, *Monete Greche della Sicilia*, 158, figs. 37-38. This, contrary to the view expressed in *PW*, s.v. Naxos 4, col. 2072.

[38] M. Santangelo, *Taormina e Dintorni* (1950) 34-57.

[39] *AJA* 56 (1952) 138f; pl. 22 B; 57 (1953) 217; 58 (1954) 330; pl. 74, fig. 21; *NS* (1955) 281-376.

[40] *MonAnt* 41 (1951) 1-148.

[41] *AJA* 59 (1955) 309f. The discussion of chronology has been continued in *Bull.Inst.Hist.Belge de Rome* 29 (1955) 199-240.

filling in the construction of the rampart or in the more recent dwellings continues to add precise details to the picture of the archaic city. Three funerary inscriptions have been extracted from the foundations; two Doric capitals and a series of triglyphs testify to a hitherto unknown large temple of the seventh century; some architectural details and (perhaps) a fragmentary relief of good quality representing a rider on horseback (pl. 135, fig. 31),[42] are survivals from a small edifice of the last quarter of the sixth century B.C.

A sounding somewhat further to the west has revealed, beneath a thick sterile layer, a stratum of archaic dwellings the walls of which are quite well preserved, and have yielded an abundant ceramic material of the seventh century; moreover in a disturbed layer was found an engraved gold ring (its guard formed by a small animal seized by two serpents) of the archaic period.

Another sounding, around the points where some walls appeared level with the ground, downhill and to the north of the ancient site, has disclosed, near a spring, the remains of the bath establishment of a Roman city: *caldarium* and part of *tepidarium*.

The importance that has been acquired year by year by the French excavations is obliging the Soprintendenza for Eastern Sicily to preserve by expropriation and to set in order the archaeological site, and even to contemplate the construction of an antiquarium, which, without depriving the Syracuse Museum of the finds formerly made at Megara, would bear witness to the veritable resurrection of this place due to a systematic project which has already lasted seven years and which it is hoped to continue.

News from SYRACUSE never fails of interest. Great expectations have been aroused by reports in various newspapers concerning underwater explorations inside the mouth of the Great Harbor and the alleged finding of the remains of ships which may be those of units of the Athenian fleet which were sunk at the time of the famous siege of 415-413 B.C.

The already famous late classical villa at PIAZZA ARMERINA[43] continues to supply news of interest, largely incidental to the work of reconditioning and protecting the mosaics. This is being effected by a combination of detaching, re-cementing, and setting in terracotta frames. During this process, when detaching the mosaic that represents the group with the so-called "Fausta" (shown as a mature woman), it developed that this pavement had been executed over a previous representation of the same group, with "Fausta" as a young girl, of which only the lower portion had survived in place (pl. 135, fig. 32). At the same time, the aqueduct which supplied water to the baths has been more fully investigated. It originated in a large rectangular cistern, following a course in which its slightly curving channel was broken at intervals by sharp angles or recesses, a device for checking the rapidity of the flow.

A preliminary report on the Excavations at SERRA ORLANDO initiated by Princeton University is to be presented in a future number of *AJA*.

The present RAGUSA is generally recognised as occupying the site of the Heraian Hybla of the Sikels.[44] Along the slopes of the plateau which faces on the west the Sikel town-site, there are two burial areas: at the Contrada Cortolillo, sarcophagi cut in the rock and graves hollowed out of the earth, and at the Contrada Rito, monolithic sarcophagi, also frequent burials *a cassa* and sometimes *a cameretta* constructed of large slabs or large blocks regularly squared. To one of these latter are attributed the figure of a lion and two fine anta capitals of local stone. The abundant equipment includes Corinthian, Ionic and black-figured Attic wares, also terracottas of Ionic style, and dates the tombs up to now uncovered between ca. 560 B.C. and the closing decades of that century. However, at the Contrada Rita, sherds of Attic red-figured and mature ware, occurring among the earth which has slid down from the height, proclaim the presence of more recent burials; and it is in regard to this later necropolis that a systematic exploration is at present in progress.

At SCORNAVACCHE, in the territory of CHIARAMONTE GULFI (Prov. of Ragusa), a Greek community of the fourth century B.C. is being uncovered, on a small plateau near the confluence of two streams. As is shown in our plan, pl. 135, fig. 33, various groups of dwellings have already been brought to light; they are separated by narrow vacant spaces and were served by streets of a certain width. The presence of some potters' establishments is attested by several kilns, a small deposit of objects in baked clay, and a room with large pithoi used for containing clay. Great interest attaches to the moulds and terracottas, of widely varying types derived from Agrigentum, Syracuse

[42] *op.cit.* 310. [43] *loc.cit.* [44] E. A. Freeman, *Hist. of Sicily* I, 162-4.

and even from centers in Southern Italy and Greece itself.[45] This community was situated on one branch of the highway from Syracuse to Agrigentum, hence its susceptibility to influences so varied. The plain pottery is of special interest because it is definitely dated by concomitant Italiote and "Gnathia" wares. The community was destroyed in an unforeseen and violent fashion between the closing years of the fourth century and the first of the third century B.C. Out of some 20 coins that have been found here, only one is of the first half of the third century; all the rest, of Gela, Syracuse and Agrigentum, belong in the fourth.

Beneath this inhabited area there extends a necropolis of the sixth century B.C., the tombs *a cappuccina* of which came to light here and there during the course of the excavation. There are some indications of restoration in the settlement itself, but still within the limits of the fourth century. No noteworthy remains of a later date have been found up to the present in all the area explored.

On the northern side of the island, the investigation of the city walls of TYNDARIS[46] has resulted in the discovery of an earlier circuit, which had hitherto remained hidden behind and beneath the curtains in squared blocks. This earlier circuit is constructed *a secco*, by means of irregular stones of modest size, with smaller chips inserted between them and bonded by a thin layer of friable mortar; occasionally, larger blocks are used to lend greater cohesion and stability. The course of this earlier wall took into consideration a small bay which was the only means of approach open to attack from the sea. The date is that of the founding of the city by Dionysios I in 396 B.C.; the later excellent revetment in squared blocks, which was never brought to completion, is also to be dated within the fourth century B.C.

We now record a series of outstanding discoveries chiefly of prehistoric, protohistoric, and indigenous settlements.

To the west of Tyndaris, a protohistoric settlement has been discovered on Monte Scurzi near MILITELLO ROSMARINO. Erosion had carried down from the summit of the mountain, where the settlement doubtless was situated, sherds mostly of *impasto* of types of the First Age of Iron, but also some Ionic fragments with black glaze or stripes, showing that the settlement continued to exist down to the close of the sixth or the first half of the fifth century B.C. Midway between Syracuse and Canicattini Bagni, two caves have been explored which have yielded abundant material extending from the upper Neolithic to the Bronze Age, and thus throw light upon the cultural *facies* during what had up to now remained the most obscure period of Sicilian prehistory. The GROTTA DELLA CHIUSAZZA presented a clear stratification of its seven periods, including figurines of the fourth century B.C. which showed that it had continued in use as a sacred cave in the Greek period; whereas the neighboring GROTTA DEL CONZO produced abundant material of the first four periods, but almost always without stratification since the objects had penetrated into crevices between enormous masses of rock.

In the interior of the island, near Piazza Armerina, on the slopes of MONTE NAONE,[47] landslides have revealed a group of Siculan inhumation tombs of the type of Licodia, with rectangular chambers. The equipment consisted partly of indigenous wares, partly of Late Corinthian and black-figured Attic importations.

Abundant news comes from the AEOLIAN ISLANDS.[48] On the island of Lipari a Neolithic station has been identified at the CASTELLARO VECCHIO near Quattripani in the plateau, with wares of the type of Stentinello and also sherds of painted pottery of the types of Matera and Megara Hyblaea. This is the oldest Neolithic settlement as yet known upon the Aeolian Islands.

The successive prehistoric stations at the CONTRADA DIANA have been more fully investigated, and their regular stratification confirmed. A deep level has yielded materials identical with those of the villages at Piano Quartara in the island of Panarea.[49] This type had not hitherto been represented on the acropolis.

The CONTRADA DIANA, as is well known, was also an inhabited center in the classical period. A sanctuary of Demeter and Kore has now been discovered, with its altar datable in its original form at the close of the fifth century B.C., but then incorporated in the foundations of a second altar

[45] A figurine representing Athena Ergane, in the style of Athenian art of the Age of Phidias, has already been published by A. Di Vita, *Annuario* 30-32 (1952-54) 141-154.

[46] *AJA* 56 (1952) 138.

[47] Note Steph. Byz., s. v. Ναξόη.

[48] *AJA* 52 (1948) 516f; 53 (1949) 385; 56 (1952) 137f; 57 (1953) 216; 58 (1954) 331.

[49] For that island, see *AJA* 53 (1949) 384f; 55 (1951) 188f; *NS* (1947) 222-238.

at a higher level belonging to the second half of the fourth century B.C. The numerous votive deposits included small pinakes representing the two goddesses beside a priestess who plays the double flute behind an altar, or else the same musician between two players of cymbals. The figurines include the comedians or buffoons which were already known from the neighboring burial-ground and which appear to have constituted one of the favorite repertories of the art of Lipari during the fourth and the first half of the third century B.C.

The position of the neighboring island of SALINA (anc. Didyma)[50] in the archaeological world has been confirmed with the finding of a Bronze Age village at the PORTELLE near Santa Marina, an inconvenient point evidently chosen for purposes of defence. Ten oval huts have been excavated, showing traces of destruction in some cases by fire, but preserving their equipment which invariably includes some large jars. The wares are in general identical with those of the Milazzese of Panarea; in one hut there were Mycenaean sherds and a long bead necklace which is stated to exhibit parallels with beads not only of the Plemmyrion at Syracuse, but of the dolmens of Southern France and the Wessex culture.

ROME

[50] *NS* (1947) 220-222.

The Sculptured Frieze from Bassae

(A Revised Sequence)

W. B. DINSMOOR

PLATES 136-141

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A PRELIMINARY article on "The Temple of Apollo at Bassae," the forerunner of my detailed but still unpublished monograph under the same title, appeared in *Metropolitan Museum Studies* as long ago as 1933.[1] The work of which that article was merely a summary (the printed version of a lecture at the Museum) had been begun in February of 1927 in the British Museum, followed in April and July of that year by two weeks at Bassae in collaboration with Rhys Carpenter, by another week at Bassae in August of 1928, and by two additional periods of investigation in the British Museum in 1930 and 1932. During these years 1927-32 intermittent studies were made also in other repositories, the National Museum at Athens, the Strasbourg Library, the Bibliothèque Nationale at Paris, and the Victoria and Albert Museum at London, as well as in New York. The appearance of the monograph itself was delayed, however, until Greece could be revisited in 1937, when the entire manuscript was read and revised at Bassae itself during a week in July. New observations made on this occasion required a complete restudy of the frieze in New York and further visits to the British Museum and Copenhagen in 1939, though expected prosecution of these studies at Tallinn (Reval) and Tartu (Dorpat) was prevented by the outbreak of the war.[2]

The Bassae frieze in the British Museum was then dismantled and placed in storage, while my manuscript was set aside because of more pressing matters.[3] Now, however, it seems desirable both to indicate the nature of my unpublished revisions (which might as well have been printed in 1939) and also to explain certain technical details which, though fully investigated in my larger manuscript, had been shown without discussion in the much compressed article of 1933. This additional report, rechecked at Bassae on June 1-2, 1956, is now made in advance of the final publication, not only because of the importance of adjusting the composition of the Bassae frieze as a milestone of Greek art ("einem Eckstein unseres monumentalen Wissens von der griechischen Plastik"—Overbeck),[4] but also in the hope that this evidence will have the benefit

[1] *MMS* IV (1932-33), 204-227, pls. i-ii. For facilitating my investigation I am greatly indebted to successive Directors of the British Museum, Sir Frederic Kenyon, Sir George Hill, and Sir John Forsdyke, and to the staff of the Department of Greek and Roman Antiquities, particularly Mr. H. B. Walters, Sir John Forsdyke in his previous capacity as Curator, Mr. F. N. Pryce, and Professor Bernard Ashmole, as well as to my own colleague Professor Rhys Carpenter. As for the photographs, fig. 1 was made by Carpenter, figs. 11-13 and 15 by photographers of the British Museum, the others by the writer.

[2] The Stackelberg material at Tallinn was sent to Berlin for "safety" during the war and again out of Berlin to a repository in East Prussia just in time to fall into Russian hands (present location unknown). The Stackelberg diary at Tartu had been lost (cf. *MMS* IV, 206 note 2), but was found during the war lying on the floor beneath the library shelves. I obtained additional Bröndsted material in Copenhagen in 1939.

[3] Some supplementary material, dealing primarily with the pediments, was published in *AJA* 43 (1939) 27-47; 47 (1943) 19-21. Incidentally my identification of these pediment statues found in Rome has been made all the more probable by Picard's identification of the acroteria from Bassae, likewise found in Rome (*MonPiot* 39 [1943] 49-80, pls. vi-vii; cf. *AJA* 47 [1943] 19-21, where I had noted simultaneously that the latter formed a pair but did not attain the conclusion that they were acroteria from Bassae), suggesting that all these sculptures were brought together from Bassae to Rome.

[4] Overbeck, *Gesch. der griechischen Plastik*, 4th ed. I (1893) 549.

of criticism during the installation in the British Museum.[5]

General Peculiarities of the Frieze Sculptures

We shall be concerned in part with the architectural setting of the frieze, and in part with the twenty-three sculptured slabs in the British Museum (nos. 520-542), constituting (apart from minor fragments at Athens and Bassae) the entire periphery of the frieze, with an aggregate length of 30.810/30.880 m.

TABLE I. LENGTHS OF FRIEZE SLABS[6]

Centaur slabs

520	0.76 m.	526	1.283 m.
521	1.28/1.30 m.	527	1.249 m.
522	1.260 m.	528	1.249 m.
523	1.159 m.	529	1.326 m.
524	1.370 m.	530	1.62/1.67 m.
525	1.347 m.		
			13.903/13.973 m.

Amazon slabs

531	1.386 m.	538	1.365 m.
532	1.391 m.	539	1.452 m.
533	1.360 m.	540	1.438 m.
534	1.338 m.	541	1.779 m.
535	1.391 m.	542	1.274 m.
536	1.393 m.		
537	1.340 m.		16.907 m.
			13.903/13.973 m.
			30.810/30.880 m.

[5] The present publication seems to be demanded, not only by the new evidence of 1937, but also because it has been intimated in some quarters that my popular lecture of 1931 (which certainly was not intended to remain so long unsupported by detailed evidence) "could only be regarded as opinion, not as fact." While I had thought that the accompanying drawings illustrated the evidence at that time omitted from the text for reasons of space, I propose here to repair this deficiency, with discussion also of the modifications introduced four years later. A statement showing my revised arrangement, which is limited to the transfer of one slab (no. 533) from the third to the seventh position on the east flank and to the interchanging of four slabs in the right-hand half of the west flank, was forwarded to the British Museum in 1939, and again in 1950 after the receipt of news that the Bassae sculptures had been taken from their war-time repository.

[6] The lengths of the slabs, based on repeated measurements in the British Museum, are as given in *MMS* IV, pl. i, with three exceptions. Nos. 521 and 530, of which the left end fragments do not actually join the main portions of the slabs, were there estimated as 1.285 and 1.645 m., respectively, the lengths as set up in the British Museum having been 1.28 and 1.62 m.; but for preliminary purposes it seems desirable to leave greater flexibility in these yet uncertain dimensions. The length of 1.28 m. for no. 521 included the separate upper left corner; and my identification of the lower left corner at Bassae (as adjusted, *MMS* IV, fig. 11) does not yield a more accurate estimate of the length; yet the missing portion of the upper right arm of the Centaur is hardly to be increased by more than 0.02 m., so that we may adopt 1.28/1.30 m. Again, while the length of 1.62 m. for no. 530 was formerly assumed (except by Ivanoff) to be complete, removal of the plaster in 1930 showed that the rump of the Centaur merely tapers off to a jagged point at the left (fig. 11), and that the upper left corner fragment (which certainly belongs to this slab, there being no other possible attribution) had been set with the left joint exactly above this broken point. Since, as thus placed, the claw of the swirling panther skin terminates only 0.14 m. from the Centaur's shoulder (as contrasted with corresponding distances of 0.21 and 0.24 m. on no. 522), it would seem possible to lengthen the gap by a maximum of 0.05 m., with a corresponding allowance for the loss at the left joint behind the Centaur's rump, the total becoming 1.62/1.67 m. Also the length of no. 540, formerly given as 1.433 m., was remeasured as 1.438 m. On the other hand, the assumption that the shortest slab no. 520 was once half again longer (as proposed by Lange and accepted by Miss Kenner) is controverted by the symmetrical pairs of vertical bored holes in the bottom and of horizontal bored holes near the top, and so remains as 0.76 m. Thus the total aggregate length, formerly given as 30.835 m. (*ibid.* 214 note 5), should preferably be from 0.025 m. less to 0.045 m. more, or 30.810/30.880 m.

The uneven number of slabs, and the unequal distribution of the subjects, 13.903/13.973 m. for eleven Centaur slabs (nos. 520-530) and 16.907 m. for twelve Amazon slabs (nos. 531-542), as well as the irregular lengths of the slabs themselves, each with a self-contained scene, create a problem of incredible proportions. Only two slabs had been known to join because of overlapping sculpture, a hand and knee at the left edge of no. 528 fitting corresponding sockets at the right edge of no. 527.[7] Allowing for this junction of two slabs, and for the fact that no. 540 fitted into a corner at the left rebate, and admitting that Centaur and Amazon slabs could not have been intermingled,[8] there still remained 6,952,804,024,320,000 possible arrangements so long as the governing architectural conditions were no more closely defined than in previous studies. All publications before 1933 had agreed only on one point,[9] that there were nine slabs on the flank toward the west, balanced

[7] *MMS* IV, fig. 13.

[8] Intermingling of the subjects, certainly inadmissible, had been allowed in only one restoration, where Murray placed no. 531 at the northwest corner between nos. 528 and 529.

[9] *MMS* IV, 215. As there noted, my arrangement had been preceded by six others, by Stackelberg (1826), Cockerell (1860), Ivanoff (1865), Lange (1880), Murray (1883), and Smith (1892), all demonstrably erroneous. For the references, see *MMS* IV, 227.

by eight on the opposite east flank, with three at each end; and even this, as we shall see, is erroneous.

Before investigating the governing architectural conditions, we may examine more closely the surface indications of the sculpture itself, so far as they must or might affect the sequence. These may be grouped in the three following categories.

(1) Protrusions of sculpture beyond the joints, such as could only have overlapped adjoining slabs at left or right in the same plane. Of these, two instances have always been known, on nos. 520 and 528. These, as well as seven others which had been concealed by plaster, removed with the permission of the authorities of the British Museum in 1930 and 1932, are here described. All nine cases belong to the Centaur series, none to the Amazon series.

No. 520. Protrusions at right joint, 0.37/0.61 m. above bottom, culminating in a maximum protrusion of 0.055 m. at the Centaur's shoulder, entirely free from background; also 0.16/0.34 m. above bottom, with a maximum protrusion of 0.007 m. below and above the Lapith's knee, beveled to about 0.003 m. behind background plane. The shoulder fragment, 0.055 m. thick, had been fastened on by Westmacott with two copper pins and shellac, reinforced in the reentrant angle behind with a piece of limestone imbedded in cement; on removal of the cement and limestone in 1932, the squarely cut corner behind, where the joint and the back of the sculptured protrusion are both roughly tooled with the point, was fully revealed. But at this moment the fragment accidentally separated from the body of the slab, and thus made possible the direct adjustment of the

TABLE II. PROPOSED ARRANGEMENTS OF BASSAE FRIEZE[10]

East

Stackelberg	540 + 537 + 536 + 534 + 541 + 538 + 535 + 531
Cockerell	532 + 533 + 535 + 536 + 531 + 538 + 539 + 534
Ivanoff	540 + 539 + 537 + 535 + 538 + 536 + 534 + 533
Lange	532 + 538 + 531 + 534 + 533 + 539 + 536 + 537
Murray & Smith	532 + 533 + 534 + 535 + 536 + 537 + 538 + 539
Dinsmoor (1)	524 + 532 + 533 + 534 + 538 + 535 + 536 + 537
Dinsmoor (2)	524 + 532 + 534 + 538 + 535 + 536 + 533 + 537

	South	*North*
Stackelberg	539 + 523 + 525	532 + 533 + 542
Cockerell	537 + 541 + 542	529 + 530 + 525
Ivanoff	532 + 541 + 542	530 + 529 + 524
Lange	540 + 541 + 535	525 + 530 + 524
Murray	540 + 541 + 542	531 + 529 + 530
Smith	540 + 541 + 542	529 + 530 + 531
Dinsmoor	540 + 541 + 542	520 + 527 + 528 + 523

West

Stackelberg	527 + 528 + 522 + 529 + 520 + 530 + 526 + 521 + 524
Cockerell	540 + 523 + 524 + 520 + 521 + 527 + 528 + 522 + 526
Ivanoff	531 + 523 + 525 + 527 + 528 + 520 + 526 + 521 + 522
Lange	542 + 523 + 526 + 521 + 529 + 520 + 522 + 527 + 528
Murray & Smith	520 + 521 + 522 + 523 + 524 + 525 + 526 + 527 + 528
Dinsmoor (1)	531 + 539 + 529 + 522 + 521 + 526 + 530 + 525
Dinsmoor (2)	531 + 539 + 529 + 522 + 526 + 525 + 521 + 530

[10] The slab numbers are given in accordance with Smith (*BMC* I, 1892). Stackelberg had numbered the slabs clockwise in accordance with his arrangement, from 1 to 23 beginning with no. 532 at the northwest corner. Ivanoff also numbered them clockwise from 1 to 23 beginning with no. 540 at the northeast corner. Lange employed the old British Museum *Synopsis* numbers 1 to 23, which do not correspond to any definite reconstruction. Cockerell had not employed a numbering system, but the slabs as arranged in his drawings are easily identified with reference to the present British Museum numbers.

shoulder to the left edge of no. 527, as described below (see p. 405).

No. 521. Protrusion at right joint, amounting to 0.007 m. in the Lapith's shield, 0.15/0.22 m. above bottom, entirely free from background (0.02/0.05 m. in relief).

No. 522. Protrusion at left joint, amounting to 0.015 m. in the Centaur's arm, 0.395/0.55 m. above bottom, entirely free from background.

No. 523. Protrusion at left joint, amounting to 0.010 m. in the flying drapery of Artemis, 0.37/0.45 m. above bottom, entirely free from background (the joint below this slightly irregular).

No. 526. Protrusion at left joint, amounting to 0.004 m. in the Centaur's amputated tail, 0.235/0.275 m. above bottom, the joint surface curving out with it.

No. 526. Protrusion at right joint, amounting to 0.002 m. in the Centaur's shoulder, 0.26/0.30 m. above bottom, entirely free from background.

No. 528. Protrusions at left joint, amounting to 0.03 m. in the Lapith's knee and 0.05 m. in his hand, 0.15/0.23 and 0.31/0.34 m. above bottom, both entirely free from background.

No. 529. Protrusion at left joint, now amounting to 0.006 m. in the Lapith's arm and hip, 0.30/0.52 m. above bottom, entirely free from background; the arm in any case should have protruded 0.01 m. at 0.37/0.52 m. above bottom, but seems to have been dressed off.

No. 529. Protrusions at right joint, amounting to 0.012 m. in the Centaur's forelegs, 0.01/0.175 and 0.205/0.265 m. above bottom, the joint surface beveled behind them (fig. 11).

To a second category belong the converse treatments, amputations or dressing of the sculpture at the joints as alternatives to overlapping protrusions. Five of these cases occur on Centaur slabs, three on Amazon slabs.

No. 520. At left joint, the Centaur's arm apparently trimmed off by about 0.005 m., and his now missing forelegs must also have been trimmed.

No. 521. At left joint, the lappet of the panther's head amputated by at least 0.01 m.

No. 524. At right joint, the panther skin hanging on the tree has obviously been trimmed off, perhaps by 0.005 m., in the line of the joint.

No. 526. At left joint, the Centaur's tail amputated by at least 0.01 m., also the flying drapery.

No. 528. At right joint, the Centaur's tail partly cut off, as well as the tail of the panther skin at upper right corner, perhaps by 0.005 m.

No. 531. At right joint, the Amazon's knee amputated in the plane of the joint, perhaps by 0.005 m.

No. 533. At right joint, the falling Amazon's drapery slightly cut off flush with the joint, perhaps by 0.005 m.

No. 535. At right joint, the Greek's elbow slightly amputated in the plane of the joint, perhaps by 0.005 m.

It is to be noted that the amputation on no. 535 would seem to have been unnecessary, unless because of miscalculation in setting; for, if the required curtailment had been foreseen, this could preferably have been done in the vacant space at the left joint.

A third category includes special treatments within the limits of the slab joints, neither protrusions nor amputations, but of possible significance as evidence of overlapping. Of these cases, the sockets at the right ends of nos. 527 and 534 have always been known, as well as the rebate at the left end of no. 540 and the blank space at the left end of no. 532; most of the others seem to have escaped attention.[11]

No. 522. At left joint, entire depth of joint surface roughly hacked away with the point, for a height of 0.175 m. above bottom, to a depth of 0.004 m.

No. 522. At right joint, head of fallen Lapith apparently slightly hollowed, while the edge below the head is slightly damaged and perhaps intentionally tooled; the roughening is considerable up to 0.18 m. above the bottom, then very slight for 0.05 m., increasing between 0.23 and 0.26 m. above the bottom, and tapering off at 0.32 m. above.

No. 523. At right joint, blank for 0.006 m. at stag's hoof 0.25 m. above bottom.

No. 526. At left joint, edge rudely hacked and perhaps tooled above the Centaur's protruding tail.

No. 527. At left joint, drapery of the Lapith dressed back at upper left corner, leaving the background bare where it was overlapped by another slab (no. 520, see below); also the Lapith's shoulder is trimmed off sharply at the left (the flattened surface hastily worked and plainly not forming part of the original finish) at a distance of 0.055 m. from the joint; and the left edge is rudely hacked to

[11] We may perhaps infer that the irregularities at the left joint of no. 531 were noted by Ivanoff and Murray (causing them to fit it into a left corner), and that the blank space at the left end of no. 542 was observed by Lange (influencing his choice of a left corner position). Also the blank space at the right end of no. 537 may have been observed by Lange, that at the right end of no. 539 by Murray and Smith, and that at the right end of no. 542 by all except Lange (causing them to choose right corner positions for these).

form a rough chamfer at 0.26/0.35 m. above the bottom.

No. 527. At right joint, two cavities 0.02 and 0.015 m. deep at 0.15/0.23 and 0.29/0.35 m. above bottom, to receive the knee and hand protruding from no. 528.

No. 528. At right joint, a fairly careful chamfer on the Centaur's amputated tail, 0.19/0.27 m. above bottom.

No. 531. At left joint, where a convex curve seemed to exist until it was freed from plaster in 1930 and shown to be vertical, yet the lower portion of the edge is roughly chamfered for a width of 0.02 m. at the bottom, tapering off to nothing at a height of 0.40 m. above bottom; above this it is more carefully beveled, increasing to a width of 0.02 m. and a depth of 0.03 m. at the top, these inward bends of 0.02 m. at bottom and top accounting for the suggestion of a convex curve while still imbedded in plaster. Also the drapery at the lower left corner is dressed off to a vertical tooled line 0.05 m. from the joint, while the upper drapery reaches to within 0.03 m. of the joint but is hammered off in such a way as to permit an overlap at a corner up to 0.05 m.

No. 532. At left joint, blank for 0.14 m., but the possibility of overlapping at a corner would be limited to 0.12 m. (beyond which the background curves out 0.02 m. to the edge of the Amazon's shield) or rather to 0.085 m. by the maximum recession of the frieze backers at the corners (see below, p. 418).

No. 534. At left joint, blank for 0.017 m.

No. 534. At right joint, a socket 0.05 m. wide and 0.08 m. high, the top 0.235 m. above the bottom of the slab, suggesting a shallow socket (e.g., to receive a protruding knee) like those at the right joint of no. 527, until removal of the plaster in 1930 showed that it passes entirely through the slab from front to back, with a slightly conical downward direction like a bisected bottle-stopper. Despite the suggestion that it might have fitted a protruding knee, it was already pointed out by Wagner (*Bassorilievi*, p. ii) that no protrusion of this sort exists (apart from no. 528); and even the possibility that an intended protrusion was abandoned through change of plan is controverted by the unnecessary deepness of the socket. It is preferable to interpret this as a plug, of a form so designed that it could not fall out, intended to mend a bad flaw in the marble; and in fact the beginning of this flaw is visible in a diagonal seam or fissure running from the left into this cavity, which, therefore, has no relation to the problem of sequence.[12]

No. 535. At left joint, blank for 0.07 m.

No. 537. At right joint, blank for 0.025 m. to the drapery at the upper corner, the high relief terminating 0.04 m. from the joint.

No. 538. At left joint, blank for 0.012 m.; though left anathyrosis margin removed.

No. 539. At right joint, blank for 0.017 m., except that the projecting ground line continues to the very end.

No. 540. At left joint, the well known rebate measuring 0.073 x 0.009 m. at the top, increasing to 0.076 x 0.012 m. at mid-height, and so presumably to 0.079 x 0.015 m. (width by depth) at the bottom where it is broken off.

No. 542. At left joint, blank for 0.05 m.

No. 542. At right joint, blank for 0.07 m.

This examination of the surfaces yields, first of all, the definite fact that the long known sequence of nos. 527 + 528 must now be increased to include a third slab. For I had observed that the left shoulder of the Centaur on no. 520, protruding 0.055 m. beyond the right joint, must have overlapped the upper left corner of no. 527, where the background is roughly dressed by cutting away the Lapith's drapery and trimming the Lapith's shoulder to receive it; this junction, observed in 1927 and confirmed both by study of the architrave dowels (later to be discussed) and by a lengthy process of elimination, was corroborated in 1932 when it became possible to adjust the shoulder fragment of no. 520 directly against the upper left corner of no. 527. This yields a fixed sequence of three Centaur slabs, with lengths of 0.76 + 1.249 + 1.249 = 3.258 m., which may now be accepted as one of our basic facts,[13] even though we have as yet no reason for placing this sequence in an end frieze rather than a flank, or vice versa.

Somewhat less definite, yet almost certain, is the fact that in addition to the known left corner slab no. 540 we now seem to have another, no. 531. While I had hesitated to adopt this as basic to the investigation, in view of the somewhat barbarous treatment to which so many of the slab joints were subjected, nevertheless there seems to be no other

[12] A patch of similar nature occurs in the top of no. 540, just at the left of the head of the Greek at the center; its right side is cut down 0.055 m., and is at right angles to the bottom which slopes down from 0.055 to 0.07 m. toward the left in a length of 0.075 m. The left side has disappeared in a break which may, as a defective fissure, have necessitated the patch; the depth seems to be no more than 0.035 m. (plaster not removed in 1930).

[13] This fact, known from the investigations of 1927-1931 and corroborated in 1932, was not explicitly stated in my article of 1933, but is there illustrated in pl. ii. This combination had never been previously suggested.

explanation than that its left joint fitted into a corner. For it would be impossible to find another slab which could have overlapped its left edge in the same plane; no Amazon slab exhibits such protrusions, while among the Centaur slabs the junction of nos. 520 + 531 is eliminated by the employment of no. 520 in the above-mentioned sequence, and the protrusions at the right edges of nos. 524 (before they were dressed off) and 529 are too slight to explain the very considerable redressing up to 0.05 m. on no. 531. The only alternative is that no. 531 was a left end slab (as will later be corroborated by the junction to a corner backer) and was abutted by another at right angles.[14]

For another corner slab, that fitting at right angles into the rebate 0.009/0.015 m. deep on no. 540, none of the Centaur slabs has sufficient blank space at the right edge; even no. 523, with a blank space of 0.006 m. beside the stag's hoof 0.25 m. above the bottom, where the depth of the rebate on no. 540 is 0.013 m., would leave a gap of 0.007 m. within the joint, most unlikely even though concealed from view. The only Amazon slabs showing blank spaces at the right edges are nos. 537 (0.025 m.), 539 (0.017 m.), and 542 (0.07 m.). Of these, however, no. 539 is eliminated by the continuation of the projecting ground line to the very end, where the rebate on no. 540 was 0.015 m. deep. Thus we have only two alternatives for the slab at the right end of a frieze abutting against no. 540, namely, nos. 537 or 542, either fitting without bringing sculpture at right angles into collision.[15]

The identification of two, and of two alternatives for a third, of the eight end slabs meeting at the four corners, raises the question of the identity of the five others. With twelve Amazon and eleven Centaur slabs, occupying respectively more and less than half of the periphery, there must have been in any case four end slabs (two left and two right) of the Amazon series, and there might perhaps also have been a fifth, either at a left or at a right end. Likewise there must have been in any case three end slabs, and perhaps a fourth, of the Centaur series, certainly one left and one right end, and either a second left or a second right end slab, possibly both. Of the two, or possibly three, left end Amazon slabs, the identification of two (nos. 531 and 540) leaves only one possible vacancy; and for this, which indeed might not have been required, we have no definite candidate, though five with vacant spaces at the left (nos. 532, 534, 535, 538, 542) might perhaps be considered.[16] Of the two, or possibly three, right end Amazon slabs, the alternative identification of one (no. 537 or 542) leaves one certain vacancy, perhaps also another; again we have no definite candidates, though two with vacant spaces at the right (either no. 537 or 542, also 539) might perhaps be considered.[17] For the one or possibly two left end Centaur slabs there are no obvious candidates,[18] and also for the one or possibly two right end Centaur slabs there are no obvious candidates except perhaps no. 523 which has a small vacant space at the right.[19]

Conversely, however, it is possible to eliminate certain slabs with protruding sculpture at the joints, all belonging to the Centaur series, from corner positions. Those with sculpture protruding beyond the left joints, for instance, and so excluded from left corner positions, are nos. 522, 523, 526, 528 (which in any case must be preceded by 520 + 527), and 529. Also those with sculpture protruding beyond the right joints, and so excluded from right corner positions, are nos. 520 (which in any case must be followed by 527 + 528), 521, 526, and 529.[20] By elimination, therefore, Centaur slabs available for left end positions are nos. 520, 521,

[14] In the eventual solution, it developed that no. 531 should be placed at the left end of the west frieze (*MMS* IV, fig. 18, pl. i, where the overlap of 0.05 m. is indicated), exactly where it had been fortuitously located by Ivanoff. Also Murray had used no. 531 as a left end slab, but in the north frieze. Stackelberg and Smith employed it as a right end slab, Cockerell and Lange as an intermediate slab.

[15] Stackelberg and Cockerell thus combined nos. 542 + 540, Lange 537 + 540; but Ivanoff combined 524 + 540, while Murray and Smith combined 539 + 540, both of which we have found to be impossible.

[16] Of these, no. 532 has been universally so employed (Stackelberg, Cockerell, Ivanoff, Lange, Murray, and Smith), and also 542 by Lange. On the other hand, no. 537 was so employed by Cockerell, and 539 by Stackelberg, without special recommendation in either case.

[17] Of these, no. 537 was so employed by Lange, 539 by Murray and Smith, and 542 by Stackelberg, all combined with no. 540 at right angles as noted above. Also no. 542 was so employed by Cockerell, Ivanoff, Murray, and Smith, combined with other slabs at right angles. On the other hand, no. 531 was so employed by Stackelberg and Smith, 533 by Ivanoff, 534 by Cockerell, and 535 by Lange, without special recommendation in any case.

[18] Nos. 520 (Murray and Smith), 525 (Lange), 527 (Stackelberg), 529 (Cockerell and Smith), and 530 (Ivanoff) have been so considered, without special reason. Of these, no. 529 is impossible (see below).

[19] Nos. 522 (Ivanoff), 524 (Stackelberg, Ivanoff, Lange), 526 (Cockerell), 528 (Lange, Murray, Smith), and 530 (Murray) have been so considered, again without special reason. Of these, no. 526 is impossible (see below). No. 523 has never been considered in a right end position.

[20] Cockerell and Smith employed no. 529 at a left end, Cockerell also no. 526 at a right end, both being impossible.

524, 525, and 530,[21] while those available for right end positions are nos. 522, 523, 524, 525, 528, and 530.[22]

The form of the carefully worked rebate on no. 540, increasing in both directions by 0.006 m. from top to bottom, suggests that the frieze leaned backward by 0.006 m.[23] Therefore the aggregate length of the twenty-three slabs, 30.810/30.880 m., as reduced by 0.073 + 0.009 = 0.082 m. at the top and by 0.079 + 0.015 = 0.094 m. at the bottom of the rebate on no. 540, would have been 30.728/30.798 m. at the top and 30.716/30.786 m. at the bottom. Accepting no. 531 as a corner slab, moreover, the presumable overlap up to 0.05 m. at the bottom would imply an overlap up to 0.044 m. at the top, further reducing the aggregate length to 30.684/30.754 m. at the top and to 30.666/30.736 m. at the bottom. The unidentified slab abutting against no. 531 should have been 0.006 m. longer at the top than at the bottom; also at the two other corners (apart from those formed by nos. 531 and 540) the four slabs meeting at right angles should have been 0.006 m. longer at the top than at the bottom, disregarding possible but unknown concealment in the corner joints; thus we obtain a difference of 5 x 0.006 = 0.030 m. Since all the slab lengths were normally taken at mid-height, half of this difference should be added to the aggregate height at the top, where the total exposed periphery might have been 30.699/30.769 m., and subtracted from the aggregate length at the bottom, where the total exposed periphery might have been 30.651/30.721 m.

The Architraves and their Dowel Holes

Turning now to the architectural setting of the frieze, we shall be concerned primarily with two courses, the Ionic limestone architrave on which the frieze rested, and the limestone backers which stood behind the frieze.

The limestone architrave had been known since 1812 as to profile,[24] but before 1927 had never been studied as to individual blocks.[25] In order to serve as a basis for the ensuing discussion it seems advisable to furnish here, with the detail that could not be included in the article of 1933, the reasons for the decisions as to the total dimensions and the identification of the component blocks.

The width of the architrave rectangle may be determined with reasonable accuracy. The distance between the external faces of the flank walls is measured at the bottom of the finished wall planes (excluding the projections of the orthostates) as 8.400 m., so that the internal width is 6.804 m., the wall planes yielding a thickness of 0.798 m. at the bottom. The thickness of the walls at the top is 0.742 m., tapering by 0.056 m.; this entire reduction appears in the inclination of the outer face, the inner wall face being vertical so that the distance between the tops of the walls is again 6.804 m. At the top of each Ionic buttress are two shelf cuttings, the lower 0.470 m. and the upper 0.137 m. high, the upper 0.682 m. and the lower 0.789 m. from the inner face of the flank wall,[26] differing by 0.107 m. The distance between the backs of the upper shelves, on opposite sides of the cella, was 6.804 — (2 x 0.682) = 5.440 m., that between the backs of the lower shelves 2 x 0.107 = 0.214 m. less or 5.226 m. The lower shelves obviously received the marble Ionic capitals, of which, though now too broken for exact measurement,[27] the height according to Haller was 1′ 6 5/12″ = 0.474 m., and the depth as measured from the smooth plane above the volutes to the back 1′ 4 ¼″ = 0.413 m.[28] There were also reentrant angles at the corners, forming a receding plane from which the distance to the back was 1′ 2 5/12″ = 0.364 m., the difference between the two planes being 0′ 1 11/12″ = 0.049 m., these dimensions likewise given in Haller's drawing. Consequently the distance between the front planes on the opposite capitals was 5.226 — (2 x 0.413) = 4.40 m., that between the receding planes 5.226 — (2 x 0.364) = 4.498 m. The upper shelf, hitherto assumed to have received a non-existent abacus restored by Cockerell against the direct opinions of Haller and Stackelberg, and

[21] Of these, no. 520 was so employed by Murray and Smith, 525 by Lange, and 530 by Ivanoff; also no. 527 by Stackelberg and 529 by Cockerell and Smith, both now shown to be impossible.

[22] Of these, no. 522 was so employed by Ivanoff, 524 by Stackelberg, Ivanoff, and Lange, 525 by Stackelberg and Cockerell, 528 by Lange, Murray, and Smith, and 530 by Murray; also no. 526 by Cockerell, now shown to be impossible.

[23] Similarly the background of the Panathenaic frieze of the Parthenon leaned backward by 0.0125 m.

[24] *MMS* IV, figs. 7, 9-10, pls. i-ii; *AAG*, pls. xxxvi-xxxvii.

[25] Except that Haller's notebooks show that in 1812 he had identified block A, while the Greek authorities in 1908 had set in their proper order, west of the temple, the blocks C + D + E + F and also the fragment G and the east block J, but without publishing the results (fig. 1). In this vicinity are assembled also the blocks A, B, K1 + I2 (wrongly combined), and K2.

[26] *MMS* IV, fig. 6.

[27] *ibid.*, fig. 4.

[28] *ibid.*, fig. 5.

adopted in slightly different form by Rhomaios,[29] certainly received the back of the limestone Ionic architrave, as demonstrated by "the fitting of the little interior cornice [carved on the backs of the architraves and continued on the buttresses and flank walls] to the niches between the buttresses, the spacing of the niche ceiling coffers, and the level of the lintel of the great north doorway which has the Ionic architrave carved on its inner face," thus placing the architrave soffit 0.137 m. below the tops of the buttresses and directly on the tops of the Ionic volutes.[30] Consequently, from the distance between the backs of the upper shelves we subtract the architrave soffit widths, 5.440 — (2 x 0.520) = 4.40 m.,[31] showing that the face of the architrave coincided exactly with the front plane above the volutes and not with the receding plane of the reentrant angles, which lay 0.049 m. behind the architrave plane.

The length of the architrave rectangle is a little more difficult to measure exactly. The total length of the cella, between the bottoms of the wall planes (excluding the orthostate projections) is 16.882 m.; the center of the isolated Corinthian column is 5.110 m. from the opisthodomus cross-wall, 11.772 m. from the pronaos cross-wall at the floor level. At the architrave level the latter dimension was evidently greater, on account of the inclination of the inner face of the pronaos cross-wall (perhaps 0.036 m.),[32] thus becoming 11.808 m. From this, however, it is necessary to subtract not only 0.570 m. for the projection of the lintel supported on the north door jambs (this lintel having the return of the Ionic architrave carved on its inner face)[33] but also 0.324 m. for half of the width of the wider architrave soffit crossing the cella above the isolated Corinthian column. Thus the exposed length of the architrave would have been 11.808 — (0.570 + 0.324) = 10.914 m. We may, therefore, adopt ca. 10.91 m., which would agree with the estimated totals from the individual architrave blocks.[34]

Location of the architrave joints in accordance with the column centers demands thirteen blocks, which I lettered A-M starting anticlockwise from the distinctive northwest corner: (A, L) the short blocks at the northwest and northeast corners, with a soffit width of 0.520 m., the known exposed length (on A) being 0.530 m.; (B-D, I-K) three intermediate blocks on each flank, theoretically averaging 2.676 m. to fit the Ionic axial spacings; (E, H) the south end blocks on the flanks, shortened by mitering with the south architrave (half of soffit width 0.324 m.), and so with theoretical lengths of 2.352 m.; (F, G) the two south architrave blocks meeting above the isolated Corinthian column, their exposed faces averaging 2.20 m., and with a wider soffit of 0.648 m.; and (M) the north door lintel with a soffit width of 1.312 m., in two blocks, the outer face 0.912 m. high and the inner 0.772 m. high, the latter forming the continuation of the Ionic architrave, 4.40 m. in length. Of this architrave twenty-three pieces were listed in 1927, belonging to twelve of the thirteen blocks. The initial clues to the original sequence were the short north end block A (identified by Haller) on the west flank (once partly imbedded in the north cross-wall and abutted by the door lintel M), and the combination of the blocks E and F mitered

[29] *MMS* IV, 208, cf. figs. 5 (with Cockerell's pencil insertion) and 10 (his restoration), contrasted with figs. 3 (Haller's restoration) and 5 (his original detail).

[30] *MMS* IV, 208, fig. 7 (section); cf. *AAG*, pl. xxxvii (front elevation).

[31] The previous calculations had been 13′ 0 1/2″ = 3.975 m. (Stackelberg), 14′ 2 1/8″ = 4.321 m. (Cockerell, Murray, Smith), 4.33 m. (Ivanoff), ca. 4.41 m. (Blouet), and 14′ 6 1/4″ = 4.427 m. (Lange), all being deficient with the exception of those of Blouet and Lange. I formerly estimated 4.412 m. (*MMS* IV, 216, pl. i), which seems a trifle excessive. With Blouet's correct width, it is difficult to understand how he could have adopted Stackelberg's end frieze length ("justified by the dimensions of the temple," p. 13 note 35), though deficient by 0.425 m.

[32] The thickness of the pronaos cross-wall at the bottom is 0.814 m., as contrasted with 0.798 m. for the flank walls and the opisthodomus cross-wall. While the thickness at the tops of the three latter walls is 0.742 m. (with the inclination of 0.056 m. on the exterior), that of the pronaos cross-wall at the top is not exactly known. An inclination of 0.056 m. on the exterior would have made it 0.758 m. But since the only available topmost blocks are again 0.742 m. thick, there might have been an additional inclination of 0.016 m. on the interior, or as seems more probable in view of the individual lengths of the architrave blocks, the total diminution of 0.814 — 0.742 = 0.072 m. may have been halved with inclinations of 0.036 m. both outside and inside.

[33] This dimension is given by the architrave block A, which has a length of 1.100 m. from the mitered interior cornice moulding at the back (the corner formed at the inner face of the pronaos cross-wall) but of only 0.530 m. from the mitered return of the architrave fascia on the front. The difference of 0.570 m. is the projection of the door lintel from the inner face of the pronaos cross-wall.

[34] The previous calculations had been 35′ 9″ = 10.897 m. (Cockerell, Murray, Smith), 11.0 m. (Ivanoff), 36′ 4 1/2″ = 11.09 m. (Lange), 37′ 4 1/2″ = 11.392 m. (Stackelberg), and ca. 11.40 m. (Blouet), all excessive except that of Cockerell (adopted by Murray and Smith, and formerly by myself, *MMS* IV, 216, pl. i). The particularly long dimensions given by Stackelberg, Blouet, and Lange resulted from their assumption that the north frieze was set into the inner face of the pronaos cross-wall above the door lintel, rather than on the projecting door lintel itself.

at 45 degrees at the southwest corner (as set together by the Greek authorities). The normal intermediate blocks (B, C, D on the west, and I, J, K on the east), of which all six are preserved wholly or in part, may then be compared with these distinctive blocks by matching the double-L clamps, normally in pairs, but single at both ends of J and at the right end of K2.

For comparison with the pair of clamps at the left joint of A, for instance, we have the right ends of five (B, D, I2, J, K2) of the six normal blocks, of which none can fit against A with the exception of B (J and K2 being eliminated by the single clamp at the right joint, D by a discrepancy of 0.025 m. in the distance of the rear clamp behind the face and also by the forward-turned prongs in both, and I2 by the forward-turned prong of the front clamp even though the distances to both would otherwise be satisfactory). For not only must the distances from the face of the architrave to the point where the clamp shank crosses the joint match perfectly (making allowance, if this distance cannot be measured exactly at the joint, for the fact that there is a tendency to set the clamps slightly obliquely, the head with the backward-turned prong usually being slightly nearer the face than that with the forward-turned prong, as measured to the axis of the shank), but also the prongs must turn in opposite directions in conformity with the general practice,[35] which was consistently followed in this temple. There might at first glance appear to be a possibility that the missing right end of the sixth block (C) could have fitted against A, giving either of the sequences E + D + X + C + A or E + X + D + C + A. But in such case it would be impossible to insert in the gap (X) between D and C or between E and D any of the four other normal blocks, neither J nor K2 because of the single clamps at the joints, nor B because the backward-turned prongs at both joints would fit neither E at the left nor C at the right, nor I2 because the prongs turned in opposite directions at the right would fit neither C nor D. Therefore the west sequence can only have been E + D + C + B + A, leaving K + J + I for the less complete east flank, but likewise in a single possible sequence.[36]

A. Short block projecting 1.100 m. from the pronaos cross-wall (according to mitered mouldings of niche ceiling) but 0.530 m. from the north door lintel (according to mitered mouldings on the face, now nearly obliterated but still traceable).[37] Two L clamps at left joint, 0.118 and 0.315 m. behind face, with both prongs forward, accurately fitting

B. Two L clamps at right joint, 0.118 and 0.315 m. behind face, with both prongs backward. B now lies immediately in front of J, the latter having been properly placed by the Greek authorities in the line of the east architrave; but there can be no doubt that B belongs on the west. It is com-

[35] A very rare case of a double-L clamp with both prongs turned in the same direction occurs in the older temple of Dionysus at Athens (Dörpfeld and Reisch, *Gr. Theater*, 15, fig. 1, used in combination with a normal clamp turning the prongs in opposite directions). In the archaic "temple C" on the Athenian Acropolis, where Wiegand (*Poros-Architektur*, 165) showed hook clamps with vertical prongs, Heberdey (*Altattische Porosskulptur*, 186) corrected these to double-L clamps with both prongs in the same direction; but since it is here a question of isolated blocks, not in situ, it is probable that Heberdey was also wrong and that the prongs turned in opposite directions, the normal procedure.

[36] Considering the problem in systematic fashion, we include the lost ends C3 and I1, and temporarily separate B1 and B2 as well as K1 and K2 (as junctions which might be considered less definite), thus obtaining twelve theoretical junctions with E and A fixed at the south and north ends of the west flank, and thirty-two theoretical junctions at the four intermediate joints (two on each flank). Of these forty-four theoretical junctions, we reject fourteen because of conflicts between one vs. two clamps (B2 + J1, D3 + J1, E3 + J1, I2 + J1, J2 + A, J2 + B1, J2 + C1, J2 + D1, J2 + K1, K2 + A, K2 + B1, K2 + C1, K2 + D1, K2 + K1), and also twelve because one or both prongs are turned in the wrong direction (B2 + B1, B2 + C1, B2 + K1, D3 + A, D3 + K1, E3 + B1, E3 + C1, I2 + A, I2 + B1, I2 + C1, I2 + D1, I2 + K1). This leaves us with seven junctions in which the prong directions would be compatible (but one of these to be rejected because of the discrepant distances from the architrave face, E3 + K1 giving 0.117 vs. 0.083 m.) and eleven wherein the evidence is lost. Examining the remaining seventeen (B2 + A, B2 + D1, B2 + I1, C3 + A, C3 + B1, C3 + D1, C3 + I1, C3 + J1, C3 + K1, D3 + B1, D3 + C1, D3 + I1, E3 + D1, E3 + I1, J2 + I1, K2 + I1, K2 + J1), it becomes evident that on the west flank there are only two possible sequences extending from E to A. The first would be E3 + D1, D3 + C1, C3 + B1, B2 + A. The second would be E3 + D1, D3 + C1, C3 + K1, A. And on the east flank there would be only one possible sequence for the three intermediate blocks, K2 + J1, J2 + I1, the last followed by I2; for K2 could not be in position L, lacking the mitered moulding on the face required by the north lintel M, nor could I2 be in position H because it has a butt joint rather than a mitered joint at the right. Thus if we were to adopt the second of the conceivable west sequences, E + D + C + K1 + A, and the only possible sequence K2 + J + I2 for the three intermediate blocks on the east, there would be no available positions for B1 and B2, likewise without mitered mouldings or joints. Therefore B1 and B2 must be parts of one block, K1 and K2 parts of another, both as indicated by the internal evidence, and the west sequence must be E + D + C + B + A, the east sequence [L] + K + J + I + [H].

[37] Haller, who identified this block ("1′ architrave du dernier niche"), now lying diagonally in front of B, saw the miter more clearly but recorded its distance from the joint as 1′ 9″ (= 0.533 m. "à biais") and wrongly marked the left joint "cassé."

posed of two pieces (B1 with a maximum length of 1.52 m. at the top of the face, 1.35 m. at the bottom of the face, 1.98 m. near the rear; B2 with a maximum length of 1.15 m. at the top of the face, 1.25 m. at the bottom of the face), now set together with a length of 3.265 m. but with a considerable gap between them. As readjusted, the length might be slightly more than 1.52 + 1.15 = 2.67 m. or 1.35 + 1.25 = 2.60 m., probably ca. 2.68 m. Two L clamps at left joint, 0.112 and 0.322 m. behind face, with both prongs backward, not fitting any other piece because of the loss of C3.

C. Right end missing (about 0.50 m.), the rest composed of two pieces (C1 about 0.55 m., C2 about 1.64 m.) with a maximum length of 2.19 m. as now set together. Two L clamps at left joint, 0.112 and 0.292 m. behind face, with both prongs backward, accurately fitting

D. Two clamps at right joint, 0.112 and 0.292 m. behind face, with both prongs forward. D is composed of three pieces set together with a length of 2.71 m., D1 and D2 with a slight gap of 0.02 m. between them, D2 and D3 accurately joining. A small fragment D4, 0.38 m. long and 0.175 m. high, accurately fits at the face in the fracture between D1 and D2 (fig. 3); as adjusted to D1, it is 0.97/1.35 m. from the left joint, with the center of an isolated pour channel 1.195 m. from the left joint, while as adjusted to D2 it is 1.34/1.72 m. from the right joint of D3, with the center of the pour channel 1.495 m. from the right joint. Therefore the true length of D was 1.195 + 1.495 = 2.690 m., after subtracting the gap of 0.02 m. between D1 and D2. Two L clamps at left joint, 0.123 and 0.303 m. behind face, with both prongs forward accurately fitting

E. Front L clamp remaining at right joint, 0.123 m. behind face with prong backward, the rear clamp broken off. E is composed of three pieces set together with a length of 2.395 m., E1 and E2 with a gap of ca. 0.02 m. between them (as measured at the top) and with another gap of ca. 0.015 m. between E2 and E3, suggesting a length of ca. 2.36 m. as measured from the mitered left corner. At this mitered left joint the front L clamp is 0.063 m. from the mitered corner of the face with the prong forward (the rear clamp broken off), accurately fitting

F. Two L clamps at the mitered right joint, 0.063 and 0.284 m. from the mitered corner of the face, with the front prong backward and the rear prong forward. F is composed of two pieces set together with a length of 2.26 m. (as measured from the face of E1); but there is a gap of 0.015 m. between F1 (1.25 m. long) and F2, also a gap of 0.02 m. at the mitered joint between F2 and E1 (as measured across the miter), so that the original length would have been 2.26 − 0.015 + 0.014) = ca. 2.23 m. The length was increased by 0.495 m. to the point within the mitered joint, the total length of F having been 2.23 + 0.495 = 2.725 m. Two L clamps at left joint, 0.150 and 0.435 m. behind the face with both prongs forward, but not fitting any other piece because of the loss of the right portion of G.

G. This is a left end piece with a mitered left joint, counterbalancing F; the maximum length is 1.07 m. (measured from the back of the mitered joint) and the face is entirely broken off so that the maximum thickness is now only 0.39 m. on the top and 0.50 m. on the soffit (originally 0.648 m.). The original length on the face would have been 4.40 − 2.23 = ca. 2.17 m. It may be noted that both clamps at the mitered joint are large T clamps (instead of the usual L clamps), such as were employed also to join the inner and outer faces of the north lintel M; but they fit no other piece of the architrave on account of the loss of the south end of H.

H? A piece broken at both ends, now 1.05 m. long, which can find no place on the west flank, and lacks the mitered mouldings which would have been required by L on the east flank, might either be a portion of H or perhaps combined with I2.

I2. Two L clamps at right joint, 0.123 and 0.322 m. behind face, with the front prong forward and the rear prong backward, but not fitting any other piece because of the loss of the left end of H. This piece is now wrongly set together with K1 (see below); the maximum length is 0.67 on the face (at top, 0.72 m. at bottom, 0.90 m. at rear of top).

J. Single L clamp at right joint, 0.193 m. behind face with prong forward, but not fitting any other piece because of the loss of I1. This block, now properly set in the line of the east architrave, is composed of two pieces fitting together (with a slight gap) with a length of 2.698 m. (J1 with a length of 1.18 m. at the front); subtracting about 0.028 m. at the gap, the original length would be ca. 2.670 m. Single L clamp at left joint, 0.190 m. behind face with prong backward, accurately fitting

K. Single L clamp at right joint, 0.190 m. behind face with prong forward. This right end piece K2, with a maximum length of 0.71 m. at the front (top, 0.69 m. at the bottom of the face, 0.78 m. at the rear of the top, 0.90 m. at the bottom), now stands alone immediately west of B, but is certainly to be combined with K1. For the composite block K1 + I2, now set together at the north end of the series of west architraves (apparently having been suggested for position B by the Greek authorities) with a present length of 2.82 m., shows a gap between K1 (maximum length 1.65 m. at top of face, 1.78 m. at bottom, 1.90 m. toward rear) and I2 (dimensions as given above). But the two pieces obviously do not belong together; the fractures do not match, and the quartz veining of the left piece (K1) does not recur in the right piece (I2); discarding the latter, we find the true right end in K2 (which now lies just in front of B and J toward the west), with the same quartz veining; if these were set together, their combined length would be only

1.65 + 0.71 = 2.36 m. at the top or 1.78 + 0.69 = 2.47 m. at the bottom of the face, thus leaving a considerable gap between them. Two L clamps at left joint, 0.083 and 0.257 m. behind face, with the front prong forward and the rear prong backward, but not fitting any other piece because of the loss of L.

M. Two pieces of the north door lintel, not joining each other and neither with a preserved joint. M1 at the left has a maximum length of 1.00 m., retaining the architrave face but with the frieze backer cut on the same block largely broken off; M2 at the right has a maximum length of 1.72 m. at the top, preserving both the architrave face and the frieze backer above with a total height of 0.489 + 0.283 = 0.772 m. The two pieces obviously were in the sequence M1 + M2 (left to right) as shown by the identical character of the diagonal fractures at the right end of the former and the left end of the latter; but a piece is clearly missing between them, so that we can only say at present that we have about 1.00 + 1.72 = 2.72 m. of the original length of 4.40 m., with losses at both ends as well as between them. Near the middle of the top of the larger piece M2 is a large T clamp for fastening it to the outer block of the door lintel.

This is the explanation of the architrave sequence published in 1933 (but not then discussed because of compression) and still to be retained.[38]

While it is evident that the architrave jointing was not executed with precisely uniform lengths, so that the joints were not exactly centered above the Ionic column axes and the lengths of the blocks deviated slightly from the average column spacing of 2.673 m. obtained from the flanks of the Doric peristyle (with which the Ionic column spacing theoretically alternated), we may attempt to restore the lengths of the missing or incomplete blocks and so the totals are as follows:

Architrave lengths, north to south

	West		East	
A	0.530	m.	L	[ca. 0.53 m.]
B	ca. 2.68	m.	K	[ca. 2.65 m.]
C	[ca. 2.65	m.]	J	ca. 2.670 m.
D	2.690	m.	I	[ca. 2.70 m.]
E	ca. 2.360	m.	H	[ca. 2.36 m.]
	10.91	m.		10.91 m.

The total is that obtained from our previous calculation based on the measurements carried up from the floor level (10.914 m.). The aggregate length of the three normal architraves on each flank would thus have been 10.91 — (0.53 + 2.36) = 8.02 m., averaging 2.673 m., identical with the spacing of the Doric columns of the flank peristyle.

On the tops of the architrave blocks, in addition to the L clamps at the joints, there remain twenty-six dowel holes (five on K, four on M, three each on B and J; two each on C, D, E, and F; one each on A, H, and I); these and three isolated pour channels are lettered from the left corners (east *a-l*, south *a-b*, west *a-k*, north *a-d*). These holes are normally oblong and shallow, very roughly cut, about 0.035/0.06 m. long[39] and 0.017/0.04 m. wide,[40] but only 0.03/0.04 m. deep, located close to the architrave face, to which their longer dimension is parallel. In one case (on K) there is a cluster of three dowel holes (fig. 4); but the northernmost (K*b*), separated from the next by an interval of only 0.012 m., differs from all the others in being only 0.02 m. square and deep, cut with great precision instead of allowing room for play in all directions, as if it were either a correction or a preliminary abandoned cutting. Sixteen of the normal holes are clearly arranged in eight pairs (both appearing on single architrave pieces in each case), their distances on centers varying from 0.19 to 0.305 m. (averaging 0.255 m.),[41] implying that there was a pair at each joint of the frieze slabs, that is, usually two holes per slab (possibly only one under the short slab no. 520), forty-five or forty-six in all. This seems to be corroborated by the fact that, of the nine single holes (apart from the small special hole K*b*), two are at corners and the seven others might have been accompanied by companion holes located either in mended patches (of which there are four, two on C, one on I, and one on J) or in breaks of sufficient width and depth at one side or the other. To the dowels, in at least four cases (B*h*, C*f*, C*g*, J*i*), little roughly cut channels lead at one end or the other, resembling and probably intended to serve as pour channels; in one case (J*i*) the pour channel does not actually enter the dowel hole but is slightly to the left. There are also three pour channels at points where no dowel holes were ever

[38] *MMS* IV, 218, pl. i. In this preliminary drawing the separations of the individual fragments were not indicated, though the lost right end of C, the lost left portion of I, and the blocks G, H, L, and M, either entirely missing or composed of small pieces which could not be accurately placed, were distinguished by dotted lines. The separate fragments are here indicated in fig. 18 (omitting "H" because of uncertainty as to its exact position in H or I).

[39] For the lengths see Table III.

[40] For the widths see note 63.

[41] The intervals on centers are 0.290 m. (B*i-j*), 0.225 m. (C*f-g*), 0.250 m. (F*a-b*), 0.260 m. (J*i-j*), 0.238 m. (K*e-d*), 0.28 m. (K*e-f*), 0.305 m. (M*a-b*), and 0.19 m. (M*c-d*).

cut (D*d*, J*g*, K*a*). The rectangular dowel holes in any case, being largely or entirely covered by the frieze slabs (as shown particularly on the north door lintel M where their position is delimited by the frieze backer cut on the same block), must have been cut before the frieze slabs were set in place. The pour channels, being outside, may have been cut later, a fact which might explain why one of them did not quite reach its destination,[42] and why three isolated channels have no relation to dowel holes.

In the following Table III the positions of the dowel holes and isolated channels are given as distances from the left end of each block (except on H? and M where the exact positions of the fragments are yet unknown), and as cumulative distances from the left-hand corner on each side (necessarily slightly approximative in view of the conditions affecting the lengths of the blocks),[43] both to the extremities and to the centers, and finally the intervals between the centers (the latter disregarding the three isolated pour channels and also the little hole K*b*).

At the south end, where only two dowel holes (*a*,*b*) are preserved on F, we may infer that the other block G was symmetrical with F even as to the two dowel holes (*y*,*z*). Furthermore there must have been an additional dowel hole closer to each corner, *b*2 on F balanced by *x* on G, their distances from the corners being tentatively estimated as the mean 0.16 m. (cf. 0.235 and 0.085 m. on the west flank). Thus the pattern on the south architrave would be restored with six dowel holes and so with three frieze slabs, of which the lengths may be tentatively determined by locating the joints at the centers of the narrow intervals (except at the corners):

G*x*	(ca. 0.16 m.)	break and gap	H-*x*	0.16 m.	
y	(ca. 1.228 m.)	0.00/2.17 m.	*x*-*y*	1.068 m.	0.16 + 1.068 + 0.125 = 1.353 m.
z	(ca. 1.478 m.)	"	*y*-*z*	0.25 m.	
F*a*	2.922 m.		*z*-*a*	1.444 m.	0.125 + 1.444 + 0.125 = 1.694 m.
b	3.172 m.		*a*-*b*	0.25 m.	
*b*2	(ca. 4.24 m.)	break 3.45/4.40 m.	*b*-*b*2	1.068 m.	0.125 + 1.068 + 0.16 = 1.353 m.
			*b*2-E	0.16 m.	

Thus it is evident that, whatever may have happened during the actual setting, the original intention was to place the exceptionally long Amazon slab no. 541 (1.779 m.) at the center of the south frieze,[44] with shorter slabs toward each corner.

On the west flank are preserved two pairs of dowels (*f*-*g*, *i*-*j*) as well as four single dowels near slab joints (*b*, *c*, *e*, *h*), besides two single dowels near the corners (*a*, *k*), disregarding at present the isolated pour channel (*d*).[45] In attempting to visualize the general pattern, we may note that since the spacing of the pairs on centers averages 0.255 m. throughout the whole system, we may tentatively restore the missing dowel holes where mended patches[46] or breaks occur at average distances of 0.255 m. on one or the other side of existing single dowel holes. Where the existing interval is so long that it must have been filled by two slabs (*e*-*f* = 2.355 m.), we may arbitrarily divide it between the two. On this basis it results that we must restore six dowels (*a*2, *b*2, *d*2, *e*2, *e*3, *g*2),[47] yielding the theoretical pattern on page 414.

While the resulting pattern is, at the present stage, purely hypothetical, depending upon such uncertain factors as the restoration of average dowel intervals in five instances and the arbitrary assumption that the slab joints were midway between the resulting dowel locations, and so is subject to considerable readjustment, nevertheless certain facts are already self-evident. The west flank was obviously planned to have eight frieze slabs, and of these the second from the north was certainly planned to be of exceptional length; it could only have been the second-longest slab, the Centaur slab no. 530 (1.62/1.67 m.).

On the east flank are preserved three pairs of dowels (*c*-*d*, *e*-*f*, *i*-*j*), as well as three single dowels

[42] *MMS* IV, fig. 17.

[43] The cumulative distances are based, in the case of the east flank, on the estimate that the left ends of the blocks were at the following distances from the north architrave: 0.53 m. (K), 3.18 m. (J), 5.85 m. (I), 8.55 m. (H), this last filling the remaining distance of 2.36 m. to the south architrave. In the south architrave, the left end of F would be 4.40 − 2.23 = 2.17 m. from the east architrave. On the west flank we have estimated that the left ends of the blocks were at the following distances from the south architrave: 2.36 m. (D), 5.05 m. (C), 7.70 m. (B), 10.38 m. (A), this last filling the remaining distance of 0.530 m. to the north architrave.

[44] The conceivable ambiguity between the calculated allowances of 1.694 m. at the middle of the south frieze and of 1.682 m. for the second position from the right on the west flank, necessarily to be assigned to the two longest slabs nos. 530 (1.62/1.67 m.) and 541 (1.779 m.), may be resolved by the fact that with eight slabs on each flank and three on the south, the north end must have had four slabs, requiring the Centauromachy, so that the south end must have been devoted to the Amazonomachy with no. 541 as the central slab. With the south interval of 1.694 m. thus occupied by no. 541

TABLE III. DISTANCES OF DOWEL HOLES FROM LEFT CORNERS

East, from left ends		cumulative from north corner to centers		intervals on centers	
K*a*	0.37 m.(pour only)	0.90 m.	0.90 m.		
b	0.643/0.663 m.	1.173/1.193 m.	1.183 m.		
c	0.675/0.72 m.	1.205/1.25 m.	1.227 m.	M-*c*	1.227 m.
d	0.905/0.965 m.	1.435/1.495 m.	1.465 m.	*c-d*	0.238 m.
e	2.005/2.065 m.	2.535/2.595 m.	2.565 m.	*d-e*	1.10 m.
f	2.285/2.345 m.	2.815/2.875 m.	2.845 m.	*e-f*	0.28 m.
J*g*	0.07 m. (pour only)	3.25 m.	3.25 m.		
h	1.04/1.10 m.	4.22/4.28 m.	4.25 m.	*f-h*	1.405 m.
i	2.17/2.225 m. (pour L.)	5.35/5.405 m.	5.377 m.	*h-i*	1.127 m.
j	2.43/2.485 m.	5.61/5.665 m.	5.637 m.	*i-j*	0.260 m.
I*k*	2.10/2.145 m.	7.95/7.995 m.	7.972 m.	*j-k*	2.335 m.
				k-G	2.938 m.

South, from left end		cumulative from east corner to centers		intervals on centers	
F*a*	0.73/0.775 m.	2.90/2.945 m.	2.922 m.	H-*a*	2.922 m.
b	0.98/1.025 m.	3.15/3.195 m.	3.172 m.	*a-b*	0.250 m.
				b-E	1.228 m.

West, from left ends		cumulative from south corner to centers		intervals on centers	
E*a*	0.21/0.26 m.	0.21/0.26 m.	0.235 m.	G-*a*	0.235 m.
b	1.325/1.375 m.	1.325/1.375 m.	1.35 m.	*a-b*	1.115 m.
D*c*	0.30/0.345 m.	2.66/2.705 m.	2.682 m.	*b-c*	1.332 m.
d	1.195 m. (pour only)	3.555 m.	3.555 m.		
e	1.74/1.775 m.	4.10/4.15 m.	4.125 m.	*c-e*	1.443 m.
C*f*	1.405/1.455 m. (pour R.)	6.455/6.505 m.	6.48 m.	*e-f*	2.355 m.
g	1.63/1.68m. (pour L.)	6.68/6.73 m.	6.705 m.	*f-g*	0.225 m.
B*h*	0.33/0.375 m. (pour L.)	8.03/8.075 m.	8.052 m.	*g-h*	1.347 m.
i	1.735/1.79 m.	9.435/9.49 m.	9.462 m.	*h-i*	1.410 m.
j	2.025/2.08 m.	9.725/9.78 m.	9.752 m.	*i-j*	0.290 m.
A*k*	0.415/0.475 m.	10.795/10.855 m.	10.825 m.	*j-k*	1.073 m.
				k-M	0.085 m.

North, from left end of left dowel in each piece		to centers	intervals on centers	
M*a*	0.00/0.05 m.	0.025 m.		
b	0.305/0.355 m.	0.33 m.	*a-b*	0.305 m.
c	0.00/0.04 m.	0.02 m.		
d	0.19/0.23 m.	0.21 m.	*c-d*	0.19 m.

(1.779 m.), the west interval of 1.682 m. could only have been intended for the long Centaur slab no. 530 (1.62/1.67 m.).

[45] For the locations of these and the restored holes on the individual blocks, it may be recalled that E covered 0.00/2.36 m., D 2.36/5.05 m., C 5.05/7.70 m., B 7.70/10.38 m., and A 10.38/10.91 m.

[46] The two inserted patches on C are 0.00/0.29 and 0.32/0.64 m. from the left joint. The former of these is in reality a double patch, one piece 0.00/0.11 m. reaching down to the fascia, the other 0.11/0.29 m. only down to the bottom of the upper moulding.

[47] The theoretical alternative of restoring a dowel *c2* instead of *b2* would yield, for the first three slabs, lengths of 0.235 + 0.86 + 0.128 = 1.223 m., 0.127 + 1.332 + 0.128 = 1.587 m., and 0.127 + 0.933 + 0.128 = 1.188 m. Not only would these very unequal lengths disagree with the limits of variation among the frieze slabs, but also the location of a hole *c2* about 2.937 m. from the corner (0.577 m. from the left joint of D) would be 0.40 m. from the nearest break, an inadmissible discrepancy.

[48] The break on D actually extends from 3.335 to 4.065 m., but within this (from 3.465 to 3.615 m.) 0.15 m. of the top surface is preserved on fragment D4.

E*a*	0.235 m.		F-*a*	0.235 m.		
a2	(ca. 1.095 m.)	break 0.85/1.03 m.	*a-a2*	0.86 m.	0.235 + 0.86 + 0.128 = 1.223 m.	
b	1.35 m.		*a2-b*	0.255 m.		
		break 1.57/1.95 m.				
D*b2*	(ca. 2.427 m.)	break 2.36/2.52 m.	*b-b2*	1.077 m.	0.127 + 1.077 + 0.128 = 1.332 m.	
c	2.682 m.		*b2-c*	0.255 m.		
		break 3.335/3.465 m.				
d2	(ca. 3.870 m.)	break 3.615/4.065 m.	*c-d2*	1.188 m.	0.127 + 1.188 + 0.128 = 1.443 m.	
e	4.125 m.		*d2-e*	0.255 m.		
C*e2*	(ca. 5.175 m.)	patch 5.05/5.34 m.	*e-e2*	1.050 m.	0.127 + 1.050 + 0.128 = 1.305 m.	
e3	(ca. 5.430 m.)	patch 5.37/5.69 m.	*e2-e3*	0.255 m.		
f	6.480 m.		*e3-f*	1.050 m.	0.127 + 1.050 + 0.113 = 1.290 m.	
g	6.705 m.		*f-g*	0.225 m.		
		gap 6.93/7.70 m.				
B*g2*	(ca. 7.797 m.)	break 7.70/7.81 m.	*g-g2*	1.092 m.	0.112 + 1.092 + 0.128 = 1.332 m.	
h	8.052 m.		*g2-h*	0.255 m.		
		break 8.92/9.24 m.				
i	9.462 m.		*h-i*	1.410 m.	0.127 + 1.410 + 0.145 = 1.682 m.	
j	9.752 m.		*i-j*	0.290 m.		
A*k*	10.825 m.		*j-k*	1.073 m.	0.145 + 1.073 + 0.085 = 1.303 m.	
			k-M	0.085 m.		
						10.91 m.

near slab joints (*h*, *k*, and one uncertainly located on *H*?), but neither of the two single dowels near the corners.[49] Again we may disregard at present the two isolated pour channels (*a*, *g*) as well as the uniquely small dowel hole (*b*). And again, moreover, we may tentatively restore the missing dowel holes where patches or breaks occur,[50] at average distances of 0.255 m. on one or the other side of existing single dowel holes, and also the two missing dowels at distances of about 0.16 m. from the corners. And again one long interval (*j*-*k* = 2.335 m.) is to be arbitrarily divided between two slabs; also the long end interval (*k*-*G* = 2.938 m.) corresponded to two slabs. On this basis it results that we must restore eight dowel holes (*x*, *g2*, *j2*, *j3*, *k2*, *l*, *l2*, *l3*), one of these being the extant but unlocated hole (on H?), yielding the theoretical pattern on the next page.

Thus again on the east flank, while the individual slab lengths are purely hypothetical and subject to considerable readjustment, yet it is evident that like the west flank it was planned to have eight frieze slabs. Furthermore, since on the basis of this tentative evidence there seem to be no distinctively long slabs such as we find on the south and west, we may conclude that the east frieze jointing was to be more regular than on the west.

The evidence obtained from the dowel holes as to the original scheme, whether exactly carried out or not, demonstrated for the first time in 1927-1931 that both flanks were intended to be symmetrically arranged with eight slabs (contrary to all previous restorations which placed nine slabs on the west flank), with three slabs at the south end (including the long Amazon slab no. 541 at the center), leaving four slabs for the north end frieze. These four north slabs can only have been the four shortest Centaur slabs, the fixed sequence nos. 520 + 527 + 528 (3.258 m.) supplemented at the right corner by the remaining shortest slab no. 523 (1.159 m.), on which the protrusion at the left end shows that it could not have fitted into the left corner. For the first time, then, it became possible to identify a fixed sequence of four Centaur slabs at the north end (at least as planned),[52] with a total length of 4.417 m. (probably 4.420 m. at the top, no. 520 having been measured at the top and no. 523 at mid-height, and so 4.408 m. at the bottom), closely according with the length of the architrave (4.40 m.).

[49] For the locations of these and the restored holes on the individual blocks, it may be recalled that L covered 0.00/0.53 m., K 0.53/3.18 m., J 3.18/5.85 m., I 5.85/8.55 m., and H 8.55/10.91 m.

[50] The inserted patch on J is 0.39/0.84 m. from the left joint, that on I extending from the left break to within 0.72 m. of the right joint.

[52] *MMS* IV, 224, pls. i-ii.

L*x*	(ca. 0.16 m.)	gap 0.00/0.53 m.	M-*x*	0.16 m.		
K*c*	1.227 m.		*x-c*	1.067 m.	0.16 + 1.067 + 0.119 = 1.346 m.	
d	1.465 m.		*c-d*	0.238 m.		
		break 1.92/2.49 m.				
e	2.565 m.		*d-e*	1.10 m.	0.119 + 1.10 + 0.140 = 1.359 m.	
f	2.845 m.		*e-f*	0.280 m.		
J*g2*	(ca. 3.995 m.)	patch 3.57/4.02 m.	*f-g2*	1.15 m.	0.140 + 1.15 + 0.128 = 1.418 m.	
h	4.25 m.		*g2-h*	0.255 m.		
		break 4.40/4.43 m.				
i	5.377 m.		*h-i*	1.127 m.	0.127 + 1.127 + 0.130 = 1.384 m.	
j	5.637 m.		*i-j*	0.260 m.		
I*j2*	(ca. 6.677 m.)	gap 5.85/7.75 m.	*j-j2*	1.04 m.	0.130 + 1.04 + 0.128 = 1.298 m.	
j3	(ca. 6.932 m.)	patch ? /7.83 m.	*j2-j3*	0.255 m.		
k	7.972 m.		*j3-k*	1.04 m.	0.127 + 1.04 + 0.128 = 1.295 m.	
k2	(ca. 8.227 m.)	break 8.33/8.55 m.	*k-k2*	0.255 m.		
H		gap 8.55/10.91 m.				
l	ca. 9.361 m.		*k2-l*	1.134 m.	0.127 + 1.134 + 0.128 = 1.389 m.	
l2	(ca. 9.616 m.)		*l-l2*	0.255 m.		
l3	(ca. 10.750 m.)		*l2-l3*	1.134 m.	0.127 + 1.134 + 0.16 = 1.421 m.	
			l3-G	0.16 m.		
						10.91 m.

It is perhaps unfortunate that the arrangement of the dowel holes on the north door lintel cannot be exactly determined independently. On the top of the larger fragment M2, however, is a large T clamp, centered at distances of ca. 0.915 m. from the broken left end and 0.805 m. from the broken right end. Being too far from the broken right end to have served as a right end clamp, it was either the central clamp of a group of three or the third clamp of a series of four; the latter seems the more probable with reference to the shapes of the fractures and the positions of the dowel holes, of which one pair (*c-d*) lies approximately beneath this clamp.

The centers of the two dowel holes (*c-d*) are 0.105 west and 0.085 m. east of the clamp axis; and the second of these (*d*) would best fit a dowel hole in frieze slab no. 528 (see p. 452), ca. 2.93 m. from the left corner of the architrave. Thus the clamp would be ca. 2.845 m. from the left end or 1.555 m. from the right end of the lintel. With a symmetrical disposition of the T clamps, the central interval would be ca. 1.29 m., implying three intervals of 1.29 m. with the endmost clamps ca. 0.265 m. from the ends of the lintel. As thus placed, between the present left end of the top of M2 and the left end of the lintel there would be an interval of ca. 2.845 − 0.915 = 1.93 m., increasing because of the diagonal fracture to ca. 2.845 − 0.79 = 2.055 m. at the level of the top of the architrave. Within this interval must be located M1, which is 0.78 m. long at the top of the architrave, 1.00 m. at the bottom. If the two pieces actually joined at the diagonal fracture, as its nature might at first glance seem to indicate, the missing portion at the left end would be ca. 2.055 − 0.78 = 1.275 m. But of the two dowel holes on M1 (*a-b*), centered 0.37 and 0.065 m. to the left of the fracture, the former (*a*) would seem to have been 0.92 m. from the left end of the lintel in order to fit a dowel hole in frieze slab no. 527. The distance between the centers of dowel holes *a* and *d* thus being ca. 2.93 − 0.92 = 2.01 m., it is probably that there was a loss of ca. 2.01 − (0.37 + 0.79) = 0.85 m. between M1 and M2 due to splintering of this very brittle stone (thus explaining the slight dissimilarities in the fractures) and of ca. 0.475 m. likewise due to splintering (not a clean break) at the left end.

With the north end entirely Centauromachy, the seven remaining Centaur slabs could not have reached as far as the south end on either flank, so that the south end frieze must have been entirely Amazonomachy. We have already identified no. 541 as the central slab on the south (as planned), leaving slightly more than 4.40 − 1.779 = 2.621 m. for two other Amazon slabs; one of these must have been the shortest Amazon slab no. 542 (1.274 m.), leaving a little more than 1.347 m. for any one of half a dozen others so far as our present evidence goes.[53]

[53] That is, nos. 531 (1.336 m. or slightly more if at left, allowing for overlap), 534 (1.338 m.), 537 (1.340 m.), 540 (1.359 m. if at left, allowing for rebate at bottom), 533 (1.360 m.), or 538 (1.365 m.).

As for the flanks, the west flank would seem to have been planned to contain Centaur slabs in part, since the second from the right was intended to be no. 530, according to the dowel holes. But, since the seven available Centaur slabs (excluding those in the north frieze) could have covered only 13.903/13.973 — 4.417 = 9.486/9.556 m., there must have been at least one Amazon slab at the left end.

To these facts, which certainly governed the cutting of the dowel holes on the architrave, we may adhere unless further evidence should prove that the arrangement was altered in the course of the installation of the frieze.

The Holes in the Frieze Slabs

The investigation of the twenty-three frieze slabs in the British Museum in 1927-1930—besides two fragments of technical importance, one now in Athens (the lower left corner of no. 536) and the other formerly at Bassae but now also at Athens (the lower left corner which I fitted to no. 521)[54]—these comprising the entire periphery, revealed that they contain four sets of holes or structural cuttings, of which two were visible and two were hitherto unknown.[55] Particularly disconcerting was the fact that the bottoms show two distinct sets of holes, mutually incompatible, in contrast to the single set on the architrave, greatly complicating the problem of arrangement.

One set at the bottom consists of shallow vertical slots, about 0.010/0.012 m. wide, 0.012/0.032 (mean 0.022) m. deep, and 0.04/0.06 m. high, some containing traces of iron rust, apparently intended for dowels let in from the face of the frieze after the slabs were set in place. Many of these vertical slots had been known to the earlier investigators,[56] but only fifteen could be detected as the slabs were exhibited in the British Museum before 1930. Removal of the concealing plaster at all strategic points in 1930 revealed eighteen more of these vertical slots, or at least traces of them, a total of thirty-three. The positions of eight others were approximately fixed by breaks at appropriate points (Table IV). It became evident that the short slab no. 520 has only one slot at the center, and that four of the normal slabs (nos. 523, 527, 528, 540) have a slot near one end but definitely lacked such a slot near the other end. Since eighteen of the slabs had such slots near both ends (certified by the actual cuttings on twelve slabs and by breaks on six others), the original total would have been forty-one as contrasted with the presumable forty-five on the architrave.

Not only is there this discrepancy in the total number; comparison with the holes on the architrave reveals the following additional difficulty. "The distances between the centers of the [paired] dowel holes on the architrave are from 0.19 to 0.305 m., averaging 0.260 [0.255] m., whereas the average distance between the pairs of adjoining [rectangular] dowel holes in the frieze (on either side of a joint) would have been 0.495 [0.478] m. The discrepancy is particularly flagrant in the case of the Amazon slabs, where the average interval is 0.516 [0.518] m., and the closest combination possible [apart from nos. 541 + 542] would be 0.384 m., far exceeding the maximum permitted by the holes on the architrave. It is now evident that the dowel holes [on the architrave, at least as pairs,] cannot be matched [with the pairs of rectangular holes on the frieze slabs]." The necessary inference is that, if these holes on the frieze were utilized at all—as the traces of iron rust indicate that some at least were—then, except in the five exceptional cases, "two holes were

[54] *MMS* IV, 214-215, fig. 11.

[55] The T clamps on the tops and the circular bored holes in the bottoms had been observed by Haller, to be sure, but remained in his unpublished notes; furthermore, in one of his notebooks Haller confused the question of the bottom holes at the middle of the thickness by showing them as rectangular rather than circular.

[56] Thirty-five drawn by Wagner (but six of them by error, being mere fractures), twenty-one by Stackelberg, seven by Corbould, and nine by Lange.

[57] The distances are measured from the joints to the centers of the bottom dowels and of the shanks of the top clamps. For the dowel holes see also *MMS* IV, 218-220, figs. 14, 16, pl. i; in this plate are given the distances to the centers of thirty-one of the bottom dowels (not including the right-hand hole on no. 541 and the left-hand hole on no. 542, both located in 1939; other differences are due to remeasurement, 0.205 instead of 0.215 m. for no. 521 left and 0.417 instead of 0.411 m. for no. 540 right). As for the eight dowel holes missing in breaks, these define the limits of their positions (nos. 524 left, 528 right, 530 left with allowance for a loss up to 0.05 m. at the left joint, 532 left, 536 left and right, 538 cutting through Greek's shin, and 541 left). For the clamps see also *MMS* IV, 218, 220-224, figs. 16-19, pl. i; in this plate are drawn to scale, but without the dimensions given above, the locations of thirty-six of these clamps (another, near the right end of no. 521, was shown by error, being carried through from the backer whereas in fact there is nothing but a break at this point). For the ten clamps missing in breaks, the form of the breaks has been taken into consideration and the minimum or maximum distances to the centers of the shanks estimated on the assumption that the shank must have been at least 0.025 m. from one or the other extremity of the position available for the missing head (nos. 521 right, 523 right, 528 right, 530 left and right, 537 left, 539 left, 541 left, and 542 left); for the tenth (no. 541 right) no calculation is possible.

TABLE IV. LOCATIONS OF BOTTOM DOWELS AND TOP CLAMPS[57]

	Bottom dowels					Top clamps					
	Left		Interval		Right	Left		Interval		Right	Total
520	0.411	+	—	+	—	0.157	+	0.523	+	0.08	0.76 m.
521	0.205	+	0.75/0.77	+	0.327	0.170	+	1.91 +	+	0.20 —	1.28/1.30 m.
522	0.138	+	0.958	+	0.164	0.027	+	1.091	+	0.142	1.260 m.
523	none	+	—	+	0.219	0.114	+	0.86 +	+	0.185 —	1.159 m.
524	0.17 —	+	1.065 +	+	0.136	0.209	+	1.003	+	0.158	1.370 m.
525	0.186	+	0.840	+	0.321	0.195	+	0.945	+	0.207	1.347 m.
526	0.314	+	0.595	+	0.374	0.105	+	1.148	+	0.030	1.283 m.
527	0.170	+	—	+	none	0.148	+	0.969	+	0.132	1.249 m.
528	none	+	—	+	0.28/0.36	0.22 —	+	0.925 +	+	0.104	1.249 m.
529	0.296	+	0.955	+	0.075	0.149	+	1.072	+	0.105	1.326 m.
530	0.18/0.23	+		+	0.064	0.19/0.39	+		+	0.30 —	1.62/1.67 m.
531	0.266	+	0.867	+	0.253	0.225	+	0.912	+	0.249	1.386 m.
532	0.31 —	+	0.90 +	+	0.178	0.090	+	1.195	+	0.106	1.391 m.
533	0.211	+	0.723	+	0.426	0.157	+	1.107	+	0.096	1.360 m.
534	0.218	+	0.891	+	0.229	0.118	+	1.021	+	0.199	1.338 m.
535	0.294	+	0.849	+	0.248	0.208	+	1.025	+	0.158	1.391 m.
536	0.34/0.54	+		+	0.34 —	0.132	+	1.131	+	0.130	1.393 m.
537	0.206	+	0.924	+	0.210	0.12 +	+	0.95 —	+	0.270	1.340 m.
538	0.464	+	0.74/0.81	+	0.09/0.16	0.199	+	0.994	+	0.172	1.365 m.
539	0.249	+	0.857	+	0.346	0.15 +	+	1.17 —	+	0.130	1.452 m.
540	none	+	—	+	0.417	0.205	+	1.008	+	0.225	1.438 m.
541	0.30/0.39	+	1.24/1.33	+	0.15	0.145/0.225				?	1.779 m.
542	0.110	+	0.981	+	0.183	0.19 —	+	0.91 +	+	0.170	1.274 m.

cut on each slab, and the builders utilized only the one which happened to be most convenient."[58]

The second set of holes does not appear on the exposed faces of the frieze slabs, being at the middle of the thickness. These are vertical bored holes, 0.016/0.019 m. in diameter and 0.04/0.073 m. high, usually centered 0.03/0.04 m. behind the frieze background but once only 0.024 m. behind (no. 520, fig. 13). On the slabs as exhibited in the British Museum, after removing the plaster, only one of these holes was visible at a point where a workman cutting a rectangular dowel hole inward from the face of no. 531 had unwittingly broken through to a circular bored hole behind.[59] Similar holes appear on the bottoms of the lower left corner fragments of nos. 521 and 536 at Athens. When slabs nos. 522 and 529 were extracted from their setting in the British Museum in 1932 in order to test their junction,[60] three additional holes appeared on their bottoms. And when in 1939, again, slabs nos. 520 and 530 were similarly extracted to test the possibility of their meeting at a corner, two additional holes appeared on no. 520 and another on no. 541. It now became evident that there were two circular holes on every slab, forty-six in all. The nine known instances, however, yield too little information as to spacing to permit the sort of generalization that is possible in the case of the rectangular holes; we can only say that in the few available instances the distances from the joints average 0.145 m.,[61] implying an average spacing of 0.290 m. which might conceivably fit the holes on the architrave (averaging 0.255 m.). On the other hand, being impressed by the comparatively

[58] *MMS* IV, 220 (citing the analogy of the extra dowel holes in the Doric frieze blocks at Sunium). Similarly in the Peisistratid Olympieum at Athens, where two double-T clamp cuttings were made at each joint of the steps and euthynteria, those at the rear were never used (except at the corners) and sometimes were not even finished. See also below, pp. 449ff.

[59] *MMS* IV, 219, fig. 15. [60] *MMS* IV, fig. 22.

[61] The distances from the joints to the centers of these known circular holes are as follows: (no. 520) 0.058 m. from left and 0.123 m. from right; (no. 521) 0.192 m. from left; (no. 522) 0.175 m. from left and 0.155 m. from right; (no. 529) 0.095 m. from right; (no. 531) 0.25 m. from right; (no. 536) 0.11 m. from left; (no. 541) 0.145 m. from right. Variations 0.058 to 0.25 m.; average of nine, 0.145 m.

clean and fresh appearance of the few circular holes available for examination, and by the probability that if they had contained iron dowels (presumably circular rods) their rusting would in some instances have broken the marble (the only actual instance of such breaking being due not to rusting but to the workman's error in locating a rectangular dowel), I concluded that their purpose was not that of fastening.[62]

Faced by this dilemma, with the pairs of rectangular dowels spaced too widely to fit the holes on the architrave and also too few in number, yet showing in at least some cases traces of iron rust from dowels, while the pairs of circular holes were evidently spaced sufficiently closely to fit the architrave holes but on the other hand (at least in the few available instances) betray no evidence of having contained actual dowels or pins, we must resort to another though somewhat delicate test. For it is evident that we are concerned with two dimensions in plan, not merely in width (the lateral spacing parallel to the architrave face) but also in depth (the distance behind the architrave face). Here, by comparison of the distances back to the architrave holes and to the frieze holes, it would seem that we have a method of deciding.

Measurement of the actual locations of a dozen of the holes on the architrave itself (fig. 4), taken at random, shows that they are placed, at one extreme, between 0.012 m. outside and 0.013 m. behind the architrave face, and at the other extreme 0.03/0.05 m. behind the architrave face; their centers vary from 0.001 to 0.04 m. behind, averaging 0.027 m.[63] Now if we suppose that (A) the rectangular holes cut directly in the frieze background plane and so, with a mean depth of 0.022 m., centered about 0.011 m. behind the background plane, were also centered on the architrave holes, the frieze background would be about 0.027 — 0.011 = 0.016 m. behind the architrave face, and the backs of the frieze slabs 0.075/0.08 m. thick would be about 0.091/0.096 m. behind the architrave face, fitting fairly closely against the frieze backer cut 0.10 m. behind the architrave face on the north lintel M.[64] But if we suppose that (B) the circular holes, bored vertically in the middle of the slab thickness and so centered 0.025/0.04 m. behind the frieze background, or 0.04/0.05 m. from the back of the frieze, were centered on the architrave holes, the frieze background would be about 0.025/0.04 — 0.027 = 0.000/0.013 m. in front of the architrave face, and the backs of the frieze slabs would leave a free space of about 0.10 — (0.027 + 0.04/0.05) = 0.023/0.033 m. behind them. This last is very improbable in view of the careful anathyrosis enframements surrounding all four edges of the backs of the frieze slabs and also all four edges of the faces of the backers (except the lower edges cut on lintel M), which would seem to have been in direct contact at top and bottom, this being implied also by the connecting T clamps as described below.

Also comparison of the resulting frieze lengths is suggestive. With utilization of (A) the rectangular dowel holes in the frieze, the dimensions of the frieze background would be about 4.40 + (2 x 0.016) = 4.432 m. by 10.91 + (2 x 0.016) = 10.942 m. But (B) employment of dowels or pins in the circular holes, even on the very improbable assumption of a free space of 0.023/0.033 m. between slabs and backers, would give dimensions of about 4.40 — (2 x 0.000/0.013) = 4.384/4.40 m. by 10.91 — (2 x 0.000/0.013) = 10.884/10.91 m. Since we have already obtained 4.420 m. for the top of the north frieze (and the same will be obtained at the south), while the length at the tops on both flanks will be obtained as 10.942 m., it is apparent that use of the circular holes (B) would result in deficient lengths in both directions. As compared with the total aggregate length of the frieze slabs, about 30.728/30.798 m. at the top after deducting 0.073 + 0.009 = 0.082 m. for the rebate on no. 540, the total periphery according to system A would be about 30.748 m., but according to system B about 30.536/30.62 m. Approximative as these figures are, the discrepancy with system A (between 0.020 m. too little and 0.050 m. too much) is certainly more easily reconcilable than that with system B (0.108/0.262 m. too much). The latter could not be explained even with the maximum allowance of 0.05 m. for the overlap on no. 531.

[62] *MMS* IV, 219-220, fig. 16. In four other cases (nos. 521 left, 522 right, 529 right, and 541 right) the two types of holes were directly superposed without breaking through.

[63] The distances of the centers behind the architrave face are 0.001 m. (F*a*, 0.025 m. wide), 0.018 m. (F*b*, 0.04 m. wide), 0.020 m. (K*e* and K*f*, 0.03 and 0.04 m. wide), 0.027 m. (B*f* and K*c*, both 0.025 m. wide), 0.033 m. (C*f*, 0.017 m. wide), 0.035 m. (D*c* and M*d*, 0.02 and 0.03 m. wide), 0.037 m. (C*g* and M*c*, 0.025 and 0.035 m. wide), and 0.04 m. (E*b*, 0.02 m. wide).

[64] The distance 0.10 m. was measured to the roughly dressed bottom of the backer cut on M, there being here, in contrast to the separate backers, no dressed anathyrosis band along the lower edge of the backer. If the anathyrosis band along the upper edge (in this case, of the separate course including backer **V**, see p. 420) projected 0.005 m., the backer recession would be reduced to ca. 0.095 m.

Both with respect to the cross-section of the entablature and also with regard to the total dimensions, therefore, it would seem that we must in some manner employ the rectangular holes (A) in connection with fastening, rather than the circular holes (B).

Thus the circular holes bored upward from the bottoms of the slabs, which can hardly be related to the dowel holes on the architrave, would seem to have been employed for suspension or lifting, perhaps first "in connection with transporting the slabs up the mountain" as I formerly suggested,[65] and again in any case when they were hoisted into place. We may recall the very similar vertical holes bored in the bottoms and tops of several of the Siphnian frieze slabs at Delphi, about 0.025 m. in diameter and 0.04/0.05 m. deep, located near the backs of the slabs and at distances of 0.32 to 0.63 m. from the joints. These holes in the Siphnian frieze correspond to nothing on the top of the architrave moulding below nor on the bottom of the frieze crown above, and were undoubtedly employed for lifting.[66] This analogy, together with the adverse measurements, should allay any lingering suspicion that the circular holes in the bottoms of the slabs from Bassae might have been employed for fastening them. In other words, any attempt to arrange the Bassae frieze slabs on the basis of reconciling the bottom circular holes with the rectangular holes on the architrave, that is, fitting round pegs into square holes, would certainly be doomed to failure.

Near the tops of the marble frieze slabs from Bassae appear circular holes 0.016/0.024 m. in diameter, bored through from the face, two on each slab, centered 0.04/0.115 (averaging 0.06) m. below the top (figs. 11, 14-16).[67] Most of these have been known since the earliest investigations of the frieze. It was universally assumed that they were intended for pegging the thin slabs to a background, which might even have been of wood according to Ivanoff; and, while it had generally been assumed that the pegs were of iron or bronze, the absence of any traces of rust or green stains had even led to the inference that they might have been of wood. Such an unusual method of fastening had resulted in the further inference that the sculptured slabs had been delivered at the temple too late for fastening in a more orthodox manner, thus requiring the makeshift pegging.

The true purpose of these holes, as eventually demonstrated by the absence of their continuations into the backers, must have been solely for lifting, ropes having been passed through them (being approximately equidistant from the ends and so symmetrical with respect to the center of gravity) exactly as in the case of other thin marble slabs used for contemporary temple sculpture, as in the Heraeum near Argos and apparently also in the temple of Poseidon at Isthmia (one on each metope, in the Heraeum 0.025 m. in diameter, just below the crowning fascia, and at Isthmia 0.026 m. in diameter, in the fascia itself).[68] Perhaps at Bassae they were used in conjunction with the bored holes on the bottom, the ropes passed through the holes near the top having passed through U-shaped irons fitted into each of the two holes in the bottom of the slab. A similar connection between the upper and lower holes may be imagined in the case of the Siphnian frieze at Delphi.

Haller's manuscript notebooks of 1812, on the other hand, revealed that he had seen cuttings for ordinary double-T clamps on the tops of the frieze slabs, fastening them to something behind which could hardly, therefore, have been wood. Following this clue, I located four of these clamp cuttings by digging out plaster on the tops of frieze slabs in the British Museum in February, 1927. After the discovery of seventeen clamp cuttings on the limestone frieze backers two months later (and two others

[65] *MMS* IV, 219-220.

[66] Daux, *BCH* 51 (1927) 27, note 1, *système de bardage*; also 47, note 1 and *Fouilles de Délphes* IV 2, 72, note 2. These appear both on the bottoms and tops of two of the corner slabs, the southeast (JK) and the northeast (AG), as well as on two of the intermediate north slabs (B, D); they also appear on the tops, but not on the bottoms so far as preserved, of the northwest corner slab (FP) and the other slab of the west front (Q). M. Daux kindly writes to me, "Je considère comme sûr que ce sont des trous de bardage." This was precisely my opinion many years ago with reference to those then visible on the tops. In the new installation of the slabs in the Delphi Museum both the bottom and top holes are visible.

[67] *MMS* IV, 217-218, figs. 11-12, 16-17. Cf. Kenner, *Der Fries des Tempels von Bassae-Phigalia* (1946) pls. 1-23 (but repeating the old erroneous interpretation of the bored holes as "Klammerlöcher" intended for bolting the slabs to the background, p. 22).

[68] Waldstein, *Argive Heraeum* I, pls. xxx, xxxixa; Eichler, *JOAI* 19/20 (1919) 48, 63, 66, 67, figs. 35, 47, 51; Kähler, *Das griechische Metopenbild* (1949) pl. 92. The metopes showing the holes are Eichler's metopes no. I (N.M. 3500), VI (N.M. 1573), VII frg. c, and VIII frg. d (N.M. 4074), as checked also by Mrs. Rebecca Robinson. Waldstein (*op.cit.* 178, 193) had assumed that these holes were for fastening the metopes to the background; the correct interpretation as lifting holes is due to Eichler (*op.cit.* 48). For the similar bored lifting hole on a metope now in Rome, which I assign to the temple at Isthmia, see my forthcoming article on "A Greek Sculptured Metope in Rome" (*Hesperia*).

later still) had demonstrated the importance of having complete knowledge of all these cuttings, thirty-two others were located on the marble slabs in 1930, when the British Museum authorities permitted me to undertake a more general task of cleaning. Since each of the twenty-three slabs had two such clamp cuttings (figs. 12, 16, 17), there were once forty-six in all, of which thirty-six actually survive and the positions of nine others can be defined within fairly narrow limits by the breaks (Table IV).[69]

The Frieze Backers and the General Scheme

Following the clues given by Haller's sketches of the double-T clamps and of the four clamp cuttings first revealed on the tops of the frieze slabs, as well as of the pry cuttings on the tops of the architraves, both implying that the frieze backers were of stone, during the cataloguing of all the blocks on the ground around the temple later in 1927 I found that these backers, never before identified, actually exist.[70] My list includes sixteen limestone backers of the same height (averaging 0.640 m.) as the frieze slabs,[71] including three corner pieces (A-C), five thicker blocks (E-I, of which two, E-F, have buttress-like protrusions at the back), and eight thinner blocks (K-R, figs. 5-10, 16-17). There is also one piece (V) which is only 0.366 m. high. And the two architrave pieces belonging to the north door lintel (M) include the lower portions of frieze backers, 0.283 m. high, so that the upper parts must have been formed by separate smaller blocks about 0.36 m. high, corresponding to the height of 0.366 m. measured on V.[72] The pieces of the north door lintel show, moreover, that the backers were here recessed 0.10 m. (probably 0.095 m. at the upper anathyrosis) behind the architrave plane, this presumably being the normal dimension, so that if the frieze 0.075/0.085 m. thick[73] fitted snugly against the backers it would recede 0.01/0.02 m. behind the architrave plane.

Since the corner backers A and B are obviously pendants, each with the short return abutting against an end of the north door lintel. A at the northeast corner and B at the northwest, the complete block A extending 1.25 m. from the internal corner formed by the north frieze backers and so 1.155 m. from the face of the north architrave, the remaining length of the east (and so approximately of the west) flank architrave was ca. 10.91 — 1.155 = 9.755 m. The third extant corner block C, assigned to the southwest corner in order to place the thicker arm above the buttress on the west flank, to explain the rebate cut along the bottom of this thicker arm (to receive the stone ceiling slab above the flank niche, see below), to fit the proper jointing of the cornice above (a dowel hole for the mitered corner cornice joint surviving on the top of C), and to explain the shelf cut on the back of the broken thinner south arm (the bed for a wooden ceiling beam of the adytum, fig. 6),[74] shows that on the west

[69] *MMS* IV, 218, figs. 16-19, pl. i (where the clamps are drawn to scale but the dimensions are not given; by error one additional clamp is shown near the right end of no. 521, actually lost in the break). See also note 57.

[70] Only thirteen of these backers, there designated as A-M, were shown as the result of my preliminary survey (*MMS* IV, pl. i). Since there were twenty-one backers of full height, besides the smaller blocks on the north lintel, they here receive new designations to allow for future insertions, as follows: Three corner backers, A-C (former A-C). Five of the six thicker backers, E (= former D), F (= E), G (= F), H (= G), and I. Eight of the eleven thinner backers, K (= H), L (= J), M (= M), N (= L), O (= K), P, and Q-R (= I). Block of less height on north lintel, V. Of these, the following ten were classified and assembled by the Greek authorities west of the north front of the temple in 1908: A, E-H, K-L, O-P, V (following the new designations). The others are scattered: B lies north of the north front (in the line of the west flank); C is properly placed at the southwest corner of the architrave assemblage; I lies south of the architrave assemblage (west of the third column from the south); M lies just west of the architrave assemblage; N is east of the temple (opposite the seventh column from the south); and Q and R lie west of the southwest corner. The designations X-Z are employed in the following discussion for the missing thicker backer (X), all missing thinner backers (Y), and the missing southeast corner backer (Z).

[71] The height of the frieze is given by Haller, Cockerell, and Smith as 2′ 1.125″ (= 0.6415 m.). Examples of heights measured on frieze slabs as pieced together in the British Museum are 0.637 m. (no. 522 at left) and 0.641 m. (no. 529 at right); these may be a little lower than the backers to relieve them from pressure. On the backers I measure 0.636 m. (M, N), 0.639 m. (H, P, Q, R), 0.640 m. (K), 0.645 m. (B), and 0.649 m. (V plus lower part on door lintel M), averaging 0.640 m.

[72] *MMS* IV, pl. ii; the heights are 0.489 + 0.649 (architrave + frieze) — 0.772 m. (door lintel) = 0.366 m. (upper course of backers on door lintel). Haller and Cockerell give the height of the inner door lintel as 2′ 6.5″ (= 0.7745 m.).

[73] Haller gives the slab thickness as 2.75 inches (= 0.070 m.), Smith as 3½ inches (= 0.089 m.), but I measured 0.075 m. on nos. 521, 522, 528 and 536, 0.085 m. on no. 520.

[74] The shelf bed is 0.245 m. below the top of the frieze coinciding with the level of a wall course, and, its width is 0.127 m. at the top and 0.135 m. at the bottom. The bottom of the shelf ends toward the west in a curve 0.13/0.18 m. short of the southwest corner; the top is here broken off but retains a slight projection implying that there was an internal corner 0.11 m. short of the southwest corner (this projection 0.11 m. thick having been responsible for the fracture). The

flank it occupied a length of 0.468 m. from the internal corner formed by the south frieze backers and so of about 0.373 m. from the face of the south architrave, further limiting the space on the flanks to about 9.382 m. Since the complete lengths of four of the backers (E, G, I, K, 1.318/1.35 m.) average 1.339 m., about half of the average Ionic axial spacing of 2.676 m., while pry cuttings on the tops of the architrave blocks show that on the flanks the backers were centered above the Ionic buttresses and midway between, regularly breaking joints, it becomes clear that the interval of ca. 9.382 m. was subdivided into seven blocks on each flank averaging ca. 1.340 m. Assuming that the three intermediate backers required on the south, as indicated by a pry cutting on architrave block F, were of similar length, there would remain for the corner blocks ca. 4.40 + (2 x 0.095) — 4.02 = 0.57 m., or 0.285 m. for each (broken off on C to a maximum length of 0.155 m.).[75] Thus there would have been seventeen intermediate backers and the four corner backers, apart from the small blocks (presumably four) of the upper course on the north door lintel.[76]

The frieze backers demonstrated, first of all, the correctness of my assumption that the pairs of holes pierced through the faces of the slabs were merely for lifting. The total absence of continuations of such holes into the frieze backers (figs. 5-7) proved that the theory of the use of pegs is erroneous.[77] Thus the holes bored through the frieze, and presumably also the complementary holes bored upward into the bottoms of the slabs, are meaningless for the purpose of determining their arrangement.

On the other hand, the tops of the frieze backers as thus identified contain the other halves of the double-T clamp cuttings found on the tops of the marble slabs. Nineteen of these clamp cuttings remain on the backers, as well as two mended patches at locations requiring three clamps (figs. 5-6, 9-10, 16-17), also with two breaks at appropriate points.[78] It was immediately obvious that these nineteen clamp cuttings on the backers, if they could be exactly located in the frieze as a whole, offered the only secure basis for determining the original sequence. For, in contrast to the dowel holes which must have been prepared on the architrave in advance, and therefore were subject to all sorts of vicissitudes during erection (as illustrated by the vacillating locations of the northernmost holes on the east flank and the extra pour channels, and also by the fact that some of them cannot possibly fit the frieze, being excessive in number and discrepant in location), both halves of any clamp cutting must have been cut simultaneously at the moment of setting the frieze, without discrepancies of measurement. It became, therefore, a question of matching some of the nineteen rear halves of such cuttings on the backers with some of the thirty-six front halves on the frieze slabs, to the complete exclusion, for the moment, of the more ambiguous question of the dowel holes. For this reason it is imperative that we ascertain the original sequence of the backers.

First of all, we may reconsider the frieze arrangement in the light of the additional evidence supplied by the three corner backers A-C. At the northeast corner, both the clamp at the left end of the east frieze and that at the right end of the north frieze must have appeared on inserted patches in corner backer A, being no longer available for comparison.[79] The northwest backer B, however, still

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opposite end of the bed is broken off at a distance of 0.525 m. from the southwest corner; but we may say that the beam socket, as it seems to be, was at least 0.525 — 0.11 = 0.415 m. wide. The thickness of the south arm of C, only 0.282 m., is further reduced by the socket to 0.155 m. at the top. Since the other backers attributable to the south frieze (N and P, see below) show neither shelf nor socket and yet are only 0.43 m. thick, it seems that the wooden ceiling girders 0.42 m. high aligned only with the west semicolumn (socket on C) and the east semicolumn (the missing corner backer Z), supporting wooden ceiling beams parallel to those crossing the cella.

[75] The alternatives of employing only one central intermediate backer on the south (two being impossible because the central joint would then coincide with that of the architrave), such as about 1.625 + 1.34 + 1.625 = 4.59 m. or 3 x 1.53 = 4.59 m., may be rejected because of the excessive lengths, particularly impractical in the case of the reduced thickness of the corner blocks (C). Or if, despite all the evidence favoring the position of C at the southwest corner, it were nevertheless to be transferred to the southeast corner (thus placing on the south the heavy arm with the useless rebate at the bottom, and leaving the beam socket without explanation on the east flank), there would be the additional difficulty that its arm 0.468 m. in length would leave an interval of about 4.59 — (2 x 0.468) = 3.654 m. between it and its pendant, too long for a single backer or even for two (with the objectionable central joint), but too short for three backers then averaging only 1.218 m. For the presumable jointing on the south see p. 429.

[76] For the number (four) on the north lintel see p. 430.

[77] *MMS* IV, 217-218, fig. 17 (showing their absence on the backers).

[78] Two clamps each on B, E, K, M, N, P; one each on C, F, G, H, L, O, V. Of two of these clamps only slight vestiges exist, the terminations of heads on E (left clamp) and O (see notes 95, 104). Also patches on A (for two clamps) and H, and breaks on G and I.

[79] *MMS* IV, fig. 18, pl. i.

retains on the north arm, 0.378 m. long, a clamp for the left end of the north frieze, 0.24 m. from the internal corner, and also on the long west arm another clamp 0.305 m. from the internal corner; allowing 0.085 m. for the frieze thickness, these would be respectively 0.155 and 0.220 m. from the corner of the frieze background.[80] And on the southwest backer C, though the south arm is broken off, the west arm 0.468 m. long retains a clamp for the left end of the west frieze, 0.273 m. from the internal corner and so 0.188 m. from the corner of the frieze.[81] Thus we know the exact positions of three of the eight endmost clamps near the four corners, a fact greatly facilitating the inquiry.

Since two of these three endmost clamp cuttings are for left end clamps, 0.155 m. from the left end of the north frieze (on B) and 0.188 m. from the left end of the west frieze (on C), we may first compare these with the three known left end frieze slabs nos. 520, 531, and 540.

On no. 520, already assigned to the left end of the north frieze to fit the general scheme, the left-hand clamp is 0.157 m. from the corner, thus corresponding closely with that 0.24 m. (0.085 + 0.155 m.) from the backer corner on B. Furthermore, on the low block V, only 0.366 m. high and forming the complementary height of the backers cut on the north door lintel (0.283 m. high, giving a total of 0.649 m.), the L clamp at the left joint fits that on the right (north) elbow of the corner block B, while a T clamp 0.392 m. from the left end of V and so 0.378 + 0.392 = 0.770 m. from the interior corner of the backer closely fits the right-hand clamp on no. 520, 0.68 m. from the left joint and so 0.085 + 0.68 = 0.765 m. from the interior corner. Thus backer V corroborates, if corroboration be necessary after all the other evidence, the attribution of no. 520 to the left end of the north frieze and the exclusion of any other slabs from this position. Furthermore, since this carries with it the fixed sequence nos. 520 + 527 + 528, followed by no. 523, it is evident that the north frieze was carried out in accordance with the original scheme, with the previously calculated length of 4.420 m. at the top and so 4.408 m. at the bottom,[82] agreeing with the architrave of 4.40 m.

On no. 531 the left-hand clamp is 0.225 m. from the joint; but we have noted that the left edge of this slab is very curiously treated, with tooled traces on the face permitting an overlap up to 0.05 m. at the bottom and so up to 0.044 m. at the top (allowing for the backward inclination of the face). Thus the left-hand clamp would have been at least 0.225 — 0.044 = 0.181 m., perhaps slightly more, from the actual corner of the frieze. But no. 531 is excluded from the northwest corner (occupied by no. 520) and also from the left end of the east frieze, the latter because its right-hand clamp, 0.181 + 0.912 = 1.093 m. or slightly more from the corner of the frieze, would then have appeared on backer A at about 0.085 + 1.093 = 1.178 m. or barely more from the internal corner, where no such cutting existed. For the east arm of backer A is preserved to its full length of 1.25 m. (fig. 5); and, while a portion of the top extending 0.59 m. from the corner has been cut away for a patch on which must have appeared the left-hand clamp of the end frieze slab, the remaining 0.66 m. of the top of the east arm is fairly well preserved and shows that there could have been no right-hand clamp within at least 1.205 m. from the internal corner, at most 0.045 m. from the joint.[83] Thus no. 531 is limited to the southeast or southwest corner. At this point it may be observed that no. 531 is indissolubly associated with backer C, which we have assigned to the southwest corner. As adjusted to the clamp on C, 0.273 m. from the internal corner and so ca. 0.188 m. from the corner of the frieze, no. 531 would extend to within 0.273 — 0.225 = 0.048 m. of the internal corner (implying an overlap of ca. 0.085 — 0.048 = ca. 0.037 m.) and beyond the end of backer C by 1.386 — (0.225 + 0.195) = 0.966 m. The exposed length would be ca. 1.349 m. at the top (overlapped by ca. 0.037 m.) and ca. 1.343 m. at the bottom (overlapped by ca. 0.043 m.), in agreement with the rough tooling up to 0.05 m. from the left end. It is hardly possible to assume that such a coincidence could have been repeated with the lost backer Z at the southeast corner.

[80] *MMS* IV, figs. 17, 18, pl. i.

[81] *MMS* IV, fig. 18, pl. i.

[82] See p. 414.

[83] The south corner of backer A is slightly broken, at the front face for a maximum length of 0.095 m. A T clamp of the usual length 0.115/0.13 m. and depth 0.02/0.025 m., as tested on the sloping fracture, could have had the left extremity of the head at most 0.07 m. from the joint if it were 0.02 m. deep, 0.057 m. from the joint if it were 0.025 m. deep. Since the heads are normally 0.05/0.07 m. long, the shank would then have been at most 0.035/0.045 m. or 0.022/0.032 m. from the joint. Thus, while it would be physically possible to insert at this point a clamp shank only 0.045 m. from the joint, it is hardly likely that a clamp would have been located so close to the joint (even though one on backer N is located only 0.043 m. from a joint) without leaving the slightest trace on the fractured surface. In any case, the objection is conclusive with respect to no. 531.

On no. 540 the left-hand clamp is 0.205 m. from the joint but, after subtraction of the rebate (0.073 m. at the top), 0.132 m. from the corner of the frieze, thus fitting neither the northwest corner backer B (0.155 m., occupied by no. 520) nor the southwest corner backer C (0.188 m., occupied by no. 531). Consequently no. 540 must be assigned either to the northeast or to the southeast corner. But if it were at the northeast corner, where as we have noted the left-hand clamp is missing on the corner backer A, the right-hand clamp 0.132 + 1.008 = 1.140 m. from the visible left corner of no. 540 must have appeared on A at a point about 1.25 — (0.085 + 1.140) = 0.025 m. from the end, incredibly close to the joint. Also the situation would be similar to that discussed in connection with no. 531; for even a clamp 0.025 m. from the joint would be expected to have left some trace on the sloping fracture at the very corner of A.[84] There would be, moreover, a second difficulty in placing no. 540 in this position, in that with the east flank thus composed entirely of Amazon slabs (since there were Amazon slabs also in the south frieze), the total length including no. 540, but excluding the southwest corner slab no. 531 and also nos. 541 + 542 definitely of the south frieze, would be 12.395 m. for nine slabs, from which it would be necessary to subtract one (any except no. 540) to be added to the known 1.779 + 1.274 = 3.053 m. of the south frieze. The havoc thus created in the dimensions of the four sides of the frieze may be illustrated in the following comparison of the results obtained with each of the eight transferable slabs and with the resulting length of the west flank (no. 531 and the seven available Centaur slabs) and the known length of the north frieze:

East, 12.395	— 1.338 (534)	= 11.057 m.	
"	— 1.340 (537)	= 11.055 m.	
"	— 1.360 (533)	= 11.035 m.	
"	— 1.365 (538)	= 11.030 m.	
"	— 1.391 (532)	= 11.004 m.	
"	— 1.391 (535)	= 11.004 m.	
"	— 1.393 (536)	= 11.002 m.	
"	— 1.452 (539)	= 10.943 m.	
West, 1.349 + 9.486/9.556		= 10.835/10.905 m.	
Architrave,		10.91 m.	

South, 3.053	+ 1.338	= 4.391 m.
"	+ 1.340	= 4.393 m.
"	+ 1.360	= 4.413 m.
"	+ 1.365	= 4.418 m.
"	+ 1.391	= 4.444 m.
"	+ 1.391	= 4.444 m.
"	+ 1.393	= 4.446 m.
"	+ 1.452	= 4.505 m.
North,		4.420 m.
Architrave,		4.40 m.

It is evident that the two flanks would be compatible with each other and with the architrave length only if nos. 521 and 530 on the west flank were restored with the maximum allowable lengths and if the slab omitted from the east flank were no. 539 (the seven others yielding impossibly excessive lengths). But the transfer of no. 539 to the south frieze would require the incredibly excessive length of 1.452 + 1.779 + 1.274 = 4.505 m., that is, 0.085 m. longer than the north frieze and 0.105 m. longer than the architrave. Because of the dimensions, therefore, we may definitely reject the possibility that no. 540 was at the left end of the east frieze. A third objection to placing no. 540 in this position is the fact that the blank space beyond the stag's hoof on no. 523 of the north frieze, which should then have fitted into the rebate of no. 540, is only 0.006 m. at a level where the rebate is 0.013 m. deep, thus leaving a rather improbable gap of 0.007 m. within the joint. Therefore no. 540 is assigned by elimination to the left end of the south frieze; and this, as we have seen, is one of the six slabs admissible in this position for reasons of length, supplementing nos. 541 + 542 (the former required by the dowel holes, the latter by the available space). Thus the south sequence could only have been nos. 540 + 541 + 542 (as previously proposed by Murray and Smith), with an exposed length of 1.365 + 1.779 + 1.277 = 4.421 m. at the top and so of 4.409 m. at the bottom, in exact agreement with the north frieze and fitting the architrave length 4.40 m. Evidently the south frieze, like the north, was set in accordance with the original scheme.

At the south end of the east frieze, fitting into the rebate 0.009/0.015 m. deep on no. 540, we have noted that the only available slabs would be nos. 537 and 542, since on no. 539 the projecting ground line extends to the extreme right end, and on no. 523 the blank space beyond the stag's hoof is only 0.006 m. at a level where the rebate is 0.013 m. deep. Now that no. 542 has been assigned to the right end of the south frieze, however, no. 537 is the sole candidate for the right end of the east frieze,

[84] See note 83.

the exposed length being 1.331 m. at the top (overlapped by 0.009 m.) and 1.325 m. at the bottom (overlapped by 0.015 m.).

The third of the surviving clamp cuttings on a corner backer, that for the right end slab of the west frieze on backer B, is 0.305 m. from the internal corner and so ca. 0.220 m. from the corner of the frieze. There being no obvious right end frieze slab, it is necessary to compare the right-hand clamps on all the slabs except those already located (nos. 520 + 527 + 528 + 523, 531, 537, 540 + 541 + 542), excluding also the Centaur slabs nos. 521, 526, and 529 on which the sculpture protrudes beyond the right joints. Among the remaining slabs (nos. 522, 524-525, 530, 532-536, 538-539), the only right-hand clamps approximately 0.220 m. from the joint would be on nos. 525 (0.207 m.) and 530 (less than 0.30 m.), both Centaur slabs. And, in fact, Centaur slabs would be appropriate at the right end of the west flank, adjoining the four Centaur slabs in the north frieze, and as suggested also by the fact that no. 530 was originally intended, at any rate, according to the dowel holes on the architrave, to be the second slab from the north on the west flank. If no. 530 was actually set as the seventh slab (scheme I), therefore no. 525 must have been the right end slab, in spite of the fact that the clamp adjustment is not perfect.[85] It is equally possible, however, to assume that the arrangement was altered in the course of erection, and that no. 530 was shifted to the right end (scheme II), with no. 525 shifted to some location yet to be ascertained.[86] For, if there actually was an alteration, it need not necessarily have been an interchange of nos. 525 and 530; our sole reason for considering no. 525 at the right end is based on the assumption that scheme I was that actually erected. Since the clamp evidence applies only to the actual setting, it is obvious that if the slabs were set according to scheme II we have as yet no evidence whatever as to which slab may originally have been proposed for the right end.

Up to this moment, therefore, we have identified all seven slabs of the two end friezes, four on the north (nos. 520 + 527 + 528 + 523) and three on the south (nos. 540 + 541 + 542), both measuring 4.420/4.421 m. at the top and 4.408/4.409 m. at the bottom. This means that, contrary to all earlier restorations, both flanks were symmetrical in having eight slabs each, the sixteen flank slabs being nos. 521-522, 524-526, 529-530, and 531-539, seven Centaur and nine Amazon slabs. Of these sixteen slabs, moreover, we have identified no. 537 at the right end of the east frieze, no. 531 at the left end of the west frieze, and either of nos. 525 or 530 at the right end of the west frieze. Despite the remaining uncertainties, we may determine the aggregate length of the sixteen flank slabs as 21.892/21.962 m. at mid-height, and so, subtracting at the top 0.009 m. for the overlap of no. 537 (in the rebate of no. 540), and ca. 0.037 m. for the overlap on no. 531, but adding 0.003 m. for half of each of the backward inclinations at the north ends of both flanks, an aggregate length of ca. 21.852/21.922 m. at the top and 21.828/21.898 m. at the bottom. Tentatively dividing these equally between the flanks, each would be about 10.926/10.961 m. at the top and 10.914/10.949 m. at the bottom, which may be taken as the approximate limits of the flank frieze length, according closely with 10.91 m. on the architrave.

We have noted that on the west flank no. 531 at the left end accounts for ca. 1.349 m.; if the seven other slabs on the west were the seven available Centaur slabs (that is, all except the four in the north frieze) with an aggregate length of 9.486/9.556 m., to which we should add 0.003 m. for half of the inclination at the right end, the total would be only 10.838/10.908 m. Again on the east flank no. 537 at the right end accounts for 1.331 m.; and if the seven other slabs were the seven available Amazon slabs (that is, excluding the identified nos. 531, 537, 540-542), with an aggregate length of 9.690 m., to which again we add 0.003 m. for half of the inclination at the left end, the total would be 11.024 m. The resulting discrepancy between the two flanks would be 0.116/0.186 m. For the sake of equality it would be necessary to transfer about 0.058/0.093 m. from the east to the west flank, that is, to substitute one or more longer Amazon slabs for a corresponding number of shorter Centaur slabs on the west; the displaced Centaur slabs would then appear at the left end of the east flank, adjoining the Centaur slabs of the north frieze.

Since the first slab at the left end of the east frieze must in any case have been a Centaur slab, we may return to the corner backer A, on which we have found that the second clamp (the first being missing) must have been at least 1.205 m.

[85] This arrangement (scheme I) was adopted in 1931 (*MMS* IV, fig. 18, pls. i-ii).

[86] This arrangement (scheme II) resulted from the investigation of 1937-1939.

from the internal corner, ca. 1.12 m. from the corner of the frieze, though this second clamp might preferably have been at the left end of the following backer and so more than 1.25 m. from the internal corner, more than 1.165 m. from the corner of the frieze. Among the seven Centaur slabs not yet definitely located, such dimensions would be possible only with nos. 521 (at least 1.08 m.), 524 (1.212 m.), 525 (1.140 m.), or 530 (at least 1.32 m.), excluding nos. 522 (1.118 m.), 526 (1.253 m.), and 529 (1.221 m.) because of the sculpture protruding beyond the left joint. But, of the four Centaur slabs, no. 530 is required at the right end of the west flank, either as the last (scheme II) or the seventh slab (scheme I). Consequently, the sole candidates for the left end of the east flank are nos. 521, 524, and 525.

The arithmetical consequences of transferring any one of these three Centaur slabs from the west flank to the east and one Amazon slab, either no. 539 or some other (*) selected from nos. 534 (1.338 m.), 533 (1.360 m.), 538 (1.365 m.), 532 (1.391 m.), 535 (1.391 m.), or 536 (1.393 m.), from the east flank to the west, may be exhibited in tabular form, as shown below.

With any of these solutions, the lengths on the flanks might be nearly or wholly equalized by adjustment of the slightly variable lengths of (1) no. 521 on the east and no. 530 on the west, or of (2-3) nos. 521 and 530 both on the west. The choice be-

1. With no. 521 on east:

East:		*West*:	
no. 521	1.28/1.30 m.	no. 531	1.349 m.
seven Amazon slabs	9.690 m.	one Amazon slab *	1.338/1.393 m.
no. 537	1.331 m.	seven Centaur slabs	9.486/9.556 m.
left end inclination	0.003 m.	right end inclination	0.003 m.
	12.304/12.324 m.		12.176/12.301 m.
one Amazon slab *	1.338/ 1.393 m.	no. 521	1.28 / 1.30 m.
length on top	10.911/10.986 m.	length on top	10.876/11.021 m.

2. With no. 524 on east:

East:		*West*:	
no. 524	1.370 m.	no. 531	1.349 m.
seven Amazon slabs	9.690 m.	no. 539	1.452 m.
no. 537	1.331 m.	seven Centaur slabs	9.486/9.556 m.
left end inclination	0.003 m.	right end inclination	0.003 m.
	12.394 m.		12.290/12.360 m.
no. 539	1.452 m.	no. 524	1.370 m.
length on top	10.942 m.	length on top	10.920/10.990 m.

3. With no. 525 on east:

East:		*West*:	
no. 525	1.347 m.	no. 531	1.349 m.
seven Amazon slabs	9.690 m.	no. 539	1.452 m.
no. 537	1.331 m.	seven Centaur slabs	9.486/9.556 m.
left end inclination	0.003 m.	right end inclination	0.003 m.
	12.371 m.		12.290/12.360 m.
no. 539	1.452 m.	no. 525	1.347 m.
length on top	10.919 m.	length on top	10.943/11.013 m.

tween them may be made either by laborious extension of the following tests applied to all the intermediate backers or, more expeditiously, primarily on the basis of composition. (1) Neither would the Centaur slab no. 521 have been fully satisfactory on the east (with the Centaur at the left edge dashing into the corner), nor would any of the available Amazon slabs (nos. 532, 533, 534, 535, 536, or 538) show particular appropriateness as a terminal slab of the Amazonomachy on the west. (2) The terminal slabs of the two episodes would be most appropriate, the Centauromachy concluding at the left end of the east flank with no. 524, on which the tree at the right edge forms a suitable final punctuation, and the Amazonomachy concluding with no. 539 as the second slab from the left on the west flank, the vertical pair of exhausted figures at the right edge again forming a terminal point of punctuation. (3) The Centaur slab no. 525 might have been suitable on the east, and the Amazon slab no. 539 again would be a most appropriate termination for the Amazonomachy on the west; but the resulting lengths of 10.919 m. (east) and 10.943/11.013 m. (west) would present a discrepancy of at least 0.024 m. and considerably more if, as seems probable, the lengths of nos. 521 and 530 are to be restored as greater than the minimum; no. 525 on the east, moreover, would require a clamp 0.025 m. from the end of backer A where no such trace appears. For these reasons it seems necessary to adopt the solution (2) with no. 524 on the east and no. 539 on the west, thus permitting uniform lengths of 10.942 m. on both flanks.[87]

We may conclude, therefore, that the west flank included the slabs nos. 531 + 539 + (521 + 522 + 526 + 529) + (525 + 530), the east flank slabs nos. 524 + (532 + 533 + 534 + 535 + 536 + 538) + 537, each with a length of 10.942 m. at the top, 10.930 m. at the bottom, in agreement with the architrave which seems to have measured 10.91 m. Subtracting on the west the aggregate length of 6.668 m. for the five definitely measured slabs (nos. 539, 522, 525, 526, 529), we have a remainder of 4.274 m. for the three estimated lengths, which may be apportioned as follows:

no. 531, est.	ca. 1.349 m., at top, preferably ca.	1.346 m.
no. 521,	1.28/1.30 m., "	1.285 m.
no. 530,	1.62/1.67 m., "	1.640 m.
		4.271 m.
inclination at right of nos. 525 or 530		0.003 m.
		4.274 m.

At this stage, with the exact sequence of the two end friezes and the general composition of the two flank friezes obtained in definite form, it should be evident that the new arrangement of 1931 was not a mere matter of opinion, but was based on long and tedious computation, at that time even more tedious than the present discussion.[88] There still remains the question of the internal adjustment of six slabs on the east flank (nos. 532-536, 538) and of six on the west flank (nos. 521-522, 525-526, 529-530), including the decision as to whether no. 525 (scheme I) or no. 530 (scheme II) was the right end slab on the west. In order to examine these problems it will be necessary to return to the intermediate backers on both flanks.

Each flank must have contained eight frieze slabs, averaging about 1/8 (10.942) = 1.368 m. The backers, therefore, covered a length of about 10.942 + (2 x 0.085) = 11.112 m., from which we subtract about 1.25 m. for the corner backers at the north (as measured on A) and 0.468 m. for those at the south (as measured on C), the intervening space of ca. 9.394 m. comprising seven intermediate backers averaging 1.342 m. Spacing off the average frieze joints from the north frieze, and the average backer joints from a joint 1.25 — 0.085 = 1.165 m. from the north frieze, we may compare the resulting theoretical locations of the frieze joints with those of the backer joints (both as measured from the north frieze background plane) on either flank as follows:

frieze joints		backer joints		distances of frieze joints south of backer joints
1.368	—	1.165	=	0.203 m.
2.736	—	2.507	=	0.229 m.
4.104	—	3.849	=	0.255 m.
5.471	—	5.191	=	0.280 m.
6.839	—	6.533	=	0.306 m.
8.207	—	7.875	=	0.332 m.
9.575	—	9.217	=	0.358 m.
10.942	—	10.559	=	0.383 m.

[87] *MMS* IV, 224, pls. i-ii. It may be noted that Stackelberg, Ivanoff, and Lange had agreed in regarding no. 524 as the terminal slab of the Centauromachy, though using it as a right end slab, fitting into a corner. Also Miss Kenner, while refraining from discussing the problem of arrangement (showing the slabs in the British Museum sequence nos. 520-538, 540-542, 539), made a single alteration by transferring no. 539 to the end as an obvious terminal slab in accordance with my suggestion (*Der Fries des Tempels von Bassae-Phigalia*, 41, 48, pl. 23).

[88] The original computations had been made without preju-

This demonstrates that, with eight fairly regular frieze slabs, their joints must always be nearer the north ends of the backers, that is, toward the left ends of the backers if it is a question of the east flank, toward the right ends if it is a question of the west flank. Furthermore, the differences between the joints, if the slabs were of fairly regular length (as was certainly the case on the east flank), tended to increase as we proceed from north to south.

Since four of the extant backers (E, F, N, P) have or had the short intervals between the clamps locating frieze joints toward their left ends, these could not be placed behind the eight slabs on the west flank. Conversely, since seven extant backers (G, H, I, K, L, M, O) have or had the short intervals toward their right ends,[89] these could not be placed behind the eight slabs on the east flank. Taken together, the consistent treatment of the two series of backers (as contrasted with the confusion that would have resulted if one or the other flank had had nine frieze slabs) is in agreement with the foregoing evidence that both flanks had eight slabs and consequently that the north end had four, with three at the south. In any case, since none of these backers of full height could have been located on the north lintel, and while two of them might be assigned to the yet undiscussed south end, yet we may be certain that E, F, H, and P were east or south backers, and that G, H, I, K, L, M, and O were west or south backers. There is the further corroboration that the thicker backers with buttress-like projections at the back (E, F) are thereby both assigned to the east flank, and that the thicker backers without such projections at the back but with protruding flanges at both ends (G, H) are thereby both assigned to the west flank,[90] this characteristic of the west flank being repeated in the southwest corner backer C (additional corroboration of the identification of C). This general classification, attained by 1931, is that which we still must follow.[91]

While my arrangement of 1927-31 had proceeded without any preliminary assumptions as to the relative locations of the thicker and thinner backers within each flank, and in consequence happened to place only one of the thicker backers (G) above an Ionic buttress and three (E, F, H) above intervals between buttresses, new evidence appeared in 1937 during revision of the manuscript at Bassae. The sun, happening on one occasion to align with the back of one of the thicker backers (G), revealed a faint but well developed anathyrosis tooling at the middle of the back, indicating that here abutted a block at right angles, of the width of the Ionic buttress (ca. 0.54 m.) and of about half of the height of the frieze (fig. 8). Following examination of the backs of all the backers under similar lighting conditions, it became evident that on the thicker backers (E-I, of which the backs of all but one were visible) such anathyrosis dressings appear consistently, sometimes even more definite than on G and of the full height of the frieze, while on the contrary such dressings never appear on the thinner backers (K-R). This distinction, which unfortunately had escaped notice during my previous visits (though it might reasonably have been inferred for structural reasons that the thicker backers were above the Ionic buttresses), now requires a new investigation of the flanks.

There is also another distinction, a treatment primarily characteristic of the thinner backers, namely, a rebate cut at the bottom to receive the stone ceiling slabs of the flank niches. That most carefully cut is on backer O, a rebate 0.13 m. high and 0.105 m. deep, reducing the thickness from 0.425 to 0.32 m.; this rebate must have been cut before setting the block in place, a fact which will prove to be significant. On most of the thinner backers the lower edge is merely roughly hacked away for a corresponding height, reducing the thickness of L from 0.395 to 0.335 m. for a height of 0.11 m., of M from 0.36 to 0.32 m. for a height of 0.12 m., of K from 0.392 m. for a height of 0.10 m., and of R for a height of 0.21 m.; also on N there seems to be rough hacking beginning 0.25 m. from the end. In these cases the stone was evidently cut away as required during the actual

dice as to the junction of no. 520 with nos. 527 + 528 or as to a corner position for no. 531.

[89] On backer I, where both T clamps are missing, they must have been located within a break which extends from 0.29 to 0.74 m. from the right end; here a seam 0.09 m. below the top runs throughout the length of the block, and after it was broken into halves this portion of the top split off from the right-hand half, its disappearance carrying with it the T clamp cuttings.

[90] The thicker backer I lacks the flanges, but conversely shows at the right end a recession of 0.01 m., so that the length is 1.34 m. at the front (as well as the gap can be adjusted) but 1.35 m. at the back; both the projecting portion and the receding front edge show anathyroses, so that in the face of the backing course there must have been an open joint 0.01 m. wide and 0.07 m. deep.

[91] *MMS* IV, 220, pl. i.

process of setting the niche ceiling slabs, implying that K, L, M, N, and R at least were on the flanks. No such tooling appears on P (0.43 m. thick). On the corner blocks, again, appear carefully cut rebates; that on the east arm of A is 0.11 m. high and 0.075 m. deep, beginning 0.85 m. from the south end and extending to the northeast external corner; the corresponding portion of the back of B is invisible, but probably similar; and on C the west arm shows a rebate 0.15/0.18 m. high and 0.05 m. deep. In other words, these dressings are characteristic of corner backers and of thinner backers which came into contact with the niche ceiling slabs, their absence on the thicker intermediate backers conforming to the fact that these were above the Ionic buttresses.

Thus, while the above-stated distinction between the east and west backers remains, the thicker backers with pairs of T clamps toward the left (E, F) belonging on the east, those with pairs toward the right (G, H, I) on the west, it is now evident that the five extant thicker backers have necessarily to assume five out of the six positions above the three central Ionic columns on each flank (the third, fifth, and seventh backer positions counting in either direction), one thicker backer from the east flank being lost (X). The thinner backers are therefore to be placed above the four niches on each flank (the second, fourth, sixth, and eighth backer positions counting in either direction), with K, L, M, and O on the west (if not south) and N and P on the east (if not south). None of the thicker backers could be placed behind the south frieze; but here, on the other hand, we find space for three thinner backers, and the next stages of the identification will be greatly clarified if we can distinguish possible candidates for the south frieze from those which can only have fitted the flanks.

Jointing of the South and North Frieze Backers

Since the composition of the south frieze is now certain, nos. 540 + 541 + 542 with a length of 1.365 + 1.779 + 1.277 = 4.421 m. at the top, we are here concerned only with the restoration of the backers. And this minor problem may be given priority over consideration of the west and east flanks, in view of the fact that any definitive identifications or rejections on the south would greatly simplify the problem of the restorations of the unknown sequences on both flanks.

[93] See p. 420.

The only clamps preserved on the south frieze slabs are three: the left-hand clamp on no. 540, the distance from the left corner excluding the rebate being 0.205 — 0.073 = 0.132 m.; the right-hand clamp on the same slab, 1.365 — 0.225 = 1.140 m. from the same corner; and the right-hand clamp on no. 542, 0.170 m. from the right corner and so 4.251 m. from the left corner.

Besides the corner backer C and its lost pendant Z at the southeast corner, we have inferred that there were three intermediate backers on the south; for two would be unacceptable with the central joint coinciding with that of the architrave, and one likewise impossible since it would require excessively long south arms for C and Z (these having been, according to C, extremely thin).[93] The fact that there were three seems to be corroborated by a pry cutting on architrave F, 0.495 m. from the central joint (0.49 m. from the theoretical middle of the architrave). If the intermediate backers averaged 1.314 m. in length, as suggested below, this pry cutting would be 0.657 — 0.49 = 0.167 m. to the east of a backer joint, within reasonable crowbar range. The thinner backers available for these three backer positions would be K, L, M, or O (if not on the west) and N or P (if not on the east). From the positions of their pairs of clamps, K, L, M, or O (clamps toward right) could only have been placed behind the meeting joint of nos. 540 + 541, while N or P (clamps toward left) would have been behind the joint of nos. 541 + 542. The central backer, which should have been without T clamps (behind the long slab no. 540), has not been recovered.

With regard to the thinner backer behind nos. 540 + 541, it will be shown by independent examination of the west flank that it must have been one of the four blocks K, L, M, or O, since only three of these can be accommodated on the west. But placing M behind nos. 540 + 541 would be absolutely impossible since the distance 0.130 m. between the clamps is less than the 0.225 m. actually preserved on no. 540. The three other candidates K, L, or O may be tested in this position with reference to the distance 1.140 m. from the southeast corner to the right-hand clamp on no. 540 and the distances 0.767, 0.854, and ca. 0.90 m. from the left joints to the left-hand clamps on each of these backers,[95] and on the assumption that the resulting locations of their left ends corresponded to a sym-

[95] As noted above (note 78), only a slight vestige of the

metrical backer joint near the southwest corner (where the south arm of backer C is broken off at a maximum distance of 0.155 m. from the interior corner and so of 0.07 m. from the corner of the frieze), yielding intervening backer lengths as follows:

K 1.140 — 0.767 = 0.373 m.
4.421 — (2 x 0.373) = 3.675 = 3 x 1.225 m.

L 1.140 — 0.854 = 0.286 m.
4.421 — (2 x 0.286) = 3.849 = 3 x 1.283 m.

O 1.140 — 0.90 = 0.240 m.
4.421 — (2 x 0.240) = 3.941 = 3 x 1.314 m.

It thus appears that, in comparison with the known backer lengths 1.318/1.35 m., an average length of 1.225 m. as required by K would be quite inadequate (K itself being 1.349 m. long); also 1.283 m. as required by L would be extremely doubtful. Therefore O would be the most suitable backer in the position behind nos. 540 + 541. We shall, independently, obtain a corresponding result from the west flank, namely, that O is the block which would there be the most unsuitable and consequently the one to be relegated to the south end.

As for the thinner backer behind nos. 541 + 542, where our choice is limited to N and P, the loss of the right-hand clamp on no. 541 and of the left-hand clamp on no. 542 deprives us of exact evidence. At first glance, while only one of these could find space on the south, either or both might be accommodated on the east flank. Independent examination of the east flank, however, will demonstrate that no place can there be found for P, which in consequence must be placed on the south.

We may, therefore, restore the frieze backers on the south, with a total length of 4.40 + (2 x 0.095) = 4.59 m., as Z (the missing southeast corner) + O + Y + P + C (the broken southwest corner backer), with lengths of ca. 0.325 (0.085 + 0.240) + 1.314 + 1.314 + 1.314 + 0.325 = 4.59 m. With the average backer length 1.314 m., the left end of backer P behind the joint of nos. 541 + 542 should be about 1.314 + 0.240 = 1.554 m. from the right corner of the frieze, and the two clamps on P, therefore, ca. 1.427 and 1.200 m. from the southwest corner. The length of no. 542 being 1.277 m., these two clamps would have been ca. 0.150 m. from the right end of no. 541 (where no evidence is preserved) and ca. 0.077 m. from the left end of no. 542 (where we know only that the clamp must have been within 0.19 m. of the end according to the break). It is possible, of course, that the jointing was slightly unsymmetrical or that the average length of the backers was slightly greater; but with the inadequate evidence preserved this feasible arrangement may be adopted. At any rate, the two backers rejected from the flanks are quite suitable for these two positions behind the south frieze, corroborating the restorations to be adopted for the flanks. The preserved left-hand clamp on no. 540 and the preserved right-hand clamp on no. 542 must have fitted lost cuttings on the corner backers Z and C.

It should be mentioned that the rear surface of backer O, in contrast to that of P (which is roughly dressed to the very bottom, fig. 10), shows a careful rebate 0.13 m. high and 0.105 m. deep along the bottom, reducing the thickness from 0.425 to 0.32 m. This is a treatment resembling that of the thinner backers on the flanks, intended to receive the stone ceiling slabs above the flank niches. But since O is to be rejected from the west flank (the only possible alternative rejection N showing a similar though roughly cut rebate made after the setting), we must conclude that O was dressed with the preliminary intention of placing it on a flank and then was transferred to the south, a transference without significance because these backers were of fairly uniform length and their rear surfaces were concealed by the adytum ceiling. The very fact that the rebate on O must have been cut in advance of setting, as contrasted with the rough hacking on most of the thinner flank blocks certainly done after setting in order to accommodate the niche ceiling slabs, is in agreement with our conclusion that this rebate was prepared in advance and then disregarded.

In any case we may be certain that K and M cannot have been behind the south frieze, and also that L is a very unlikely candidate, the possibilities being O toward the southeast corner and N or P (the latter as implied by the elimination from the east frieze) toward the southwest corner. The chief importance of these results is that K and M at any rate must have been behind the west frieze, as well as either L or O (probably the former),

head of the T clamp remains on O, beginning at 0.87 m. from the left joint, so that the shank may be restored at a distance of ca. 0.90 m. Not having seen this trace until 1937, I formerly mistakenly placed O (then designated as K) behind the middle of no. 541 (*MSS* IV, pl. i).

while either N or P, perhaps both, remain for consideration behind the east frieze.

Behind the north frieze, where again the sequence nos. 520 + 527 + 528 + 523 is certain, the short arms of backers B and A, respectively 0.378 and 0.294 m. in length, overlapped the north door lintel (M) by about 0.283 and 0.199 m. Between them would have remained an interval of ca. 4.59 − 0.672 = 4.40 − 0.482 = 3.918 m., which might have been divided into two blocks of 1.959 m., three of 1.306 m. (as on the south), or four of 0.98 m. These, as shown by the lintel piece M2 and by the low backer V (broken off with a maximum length of 0.64 m.), were low blocks only 0.366 m. high. On the top of the lintel piece M2 appear not only the large T clamp fastening it to the outer lintel on the north face of the pronaos cross-wall—presumably the third clamp of a series of four, estimated to have been ca. 2.845 m. from the west end of the lintel—but also a pry cutting 0.505 m. to the left of the clamp axis and so ca. 0.14 m. east of the center of the lintel. It would seem, therefore, that the north backers had a central joint; and, since lengths of 1.959 m. would have been excessive for such low blocks, we may infer that there were four, of which the westernmost (V) survives in part.

Sequence of the West Backers and Frieze Slabs

When we turn to the problem of the unknown sequences on the flanks, and particularly the more irregular west flank, the processes of investigation become greatly involved. We have identified nos. 531 + 539 as the first and second slabs at the left, and either no. 525 or 530 as the right end slab, in the former case no. 530 being the next to the last (scheme I). Thus with scheme I we obtain known lengths of 1.346 + 1.452 + 5.154 (four slabs) + 1.640 + 1.350 = 10.942 m., while with scheme II the known lengths are 1.346 + 1.452 + 6.501 (five slabs) + 1.643 = 10.942 m. The two corner backers (C, B) and the three thicker backers (G, H, I) are all known, as well as four candidates (K, L, M, O) for the four thinner backer positions, K and M at least definitely belonging on the west flank, one of either L or O (preferably the latter) being transferable to the south.

We may first lay out all the possible combinations of the thicker backers as follows:

West (south to north)

1st	3rd	5th	7th	9th
C	G	H	I	B
C	G	I	H	B
C	H	G	I	B
C	H	I	G	B
C	I	G	H	B
C	I	H	G	B

At the left end, where no. 531 was overlapped by the south frieze for 0.040 m. (top) and extended 0.966 m. beyond the joint of backer C, we may test the possible junctions with the thinner backers K, L, M, or O. It is evident that, with respect to the double-L clamps crossing the backer joints, neither L nor O could have adjoined C because the clamp prongs would then turn in the same direction (rather than opposite directions as required); but K would be possible from this standpoint, also the broken M for lack of evidence. However, the clamp on C crosses the joint at 0.249 m. behind the face, as contrasted with 0.258 m. on K, 0.162 m. on L, and 0.227 m. on O, again definitely eliminating L and O, though K might be reconciled with little difficulty, and M for lack of evidence. As this criterion implies, the distances from the faces of the backers to the point at which the two halves of a clamp cross the joint must be identical,[96] inasmuch as the backer faces, with their very careful broad anathyrosis frames at top, bottom, and both vertical edges (corresponding to the similar but narrower anathyrosis frames on the backs of the frieze slabs), must have been in perfect alignment since the frieze slabs always overlapped the backer joints with their upper and lower anathyroses in contact. Furthermore, the right-hand clamp on no. 531, being 0.249 m. from the right joint and so only 0.966 − 0.249 = 0.717 m. from backer C, would disagree with 0.767 m. on K, 0.854 m. on L, ca. 1.34 − 0.418 = 0.912 m. on M, and ca. 0.90 m. on O. Finally, the distance of 0.130 m. between the clamp cuttings on M is less than the 0.249 m. actually preserved on no. 531. Thus all four of the thinner backers are eliminated from this second position, L and O for three reasons, M for two, and K for one. These four backers, therefore, are limited to three positions (fourth, sixth, and eighth from the south), so that one of

[96] In cases where measurements can be taken only at the heads of the clamps and not at the crossing of the joints, one must consider the tendency to set the clamps slightly obliquely, usually with the backward-turned prong a little closer to the face than the forward-turned prong (cf. p. 409).

them, either L or preferably O, must be relegated to the south frieze.

At the right corner of the west flank, where one or the other of slabs nos. 525 or 530 must be combined with the corner backer B, we may examine the resulting conditions. No. 525 in this position (scheme I) would extend 1.350 m. from the north frieze (at the top), so that its left-hand clamp 0.195 m. from the joint would be 1.155 m. from the north frieze. Behind it, in any case, could not be placed backer M, on which the distance 0.130 m. between the clamps would be less than the 0.195 m. preserved on no. 525. And if K were placed here, with its right-hand clamp adjusted to the left-hand clamp on no. 525, the right joint of K would be 0.195 + 0.275 = 0.470 m. from the left end of no. 525, thus locating the backer joint only 1.350 − 0.470 = 0.880 m. from the corner of the frieze, ca. 0.965 m. from the internal backer corner, and so conflicting with the west arm of backer B which even in its broken condition has a length of 1.15 m. from the internal corner. The only candidates for the eighth position in scheme I would be L or O, on which the right-hand clamps and the right ends are broken off.

On the other hand, if no. 530 were the right end slab (scheme II), extending 1.643 m. (at the top) from the north frieze, its left-hand clamp between 0.19 and 0.39 m. from the joint would be 1.255/1.455 m. from the north frieze. Again it would be impossible to place backer M, with only 0.130 m. between the clamps, behind the left end of no. 530, where the distance was at least 0.19 m. With K, however, adjusting its right-hand clamp to the gap in which a clamp once existed on no. 530, 0.19/0.39 m. from the left end but not more than 0.28 m. from the joint because the clamp interval on K is only 0.307 m., the right end of K would be 0.19/0.28 + 0.275 = 0.465/0.555 m. from the left end of no. 530, thus locating a backer joint 1.643 − 0.465/0.555 = 1.09/1.18 m. from the corner of the frieze, or ca. 1.175/1.265 m. from the interior corner of backer B, satisfactorily balancing the 1.25 m. measured on the northeast backer A. And again in scheme II, with no. 530 at the right end, L or O would be possible candidates for the eighth position, as well as (with K in the eighth) for the fourth or sixth position.

On the west flank, therefore, the thinner backer in the second position is lost (Y), while with no. 525 at the right end (scheme I) K and M must have occupied the fourth and sixth positions or vice versa, thus forcing L or O into the eighth position and leaving one of the latter (preferably O) for the south frieze. This would yield four possible sequences for the thinner backers. But if no. 530 were at the right end of the frieze (scheme II), while M would still be limited to the fourth or sixth positions, K and either L or O might have occupied any one of three positions, the fourth, sixth, and eighth. Under these circumstances the number of possible sequences would be increased from four to eight. Separating the two schemes, with no. 525 (I) or 530 (II) at the right end, the possible sequences of the thinner backers would be the following:

I. West (south to north), no. 525 at right

2nd	4th	6th	8th
Y	K	M	L
Y	K	M	O
Y	M	K	L
Y	M	K	O

II. West (south to north), no. 530 at right

Y	K	M	L
Y	K	M	O
Y	L	M	K
Y	O	M	K
Y	M	K	L
Y	M	K	O
Y	M	L	K
Y	M	O	K

Combination of the six sequences of thicker backers with the four sequences of thinner backers permissible if no. 525 were at the right end (scheme I) would theoretically yield twenty-four possible backer sequences for the west flank as a whole. Similarly, if no. 530 were at the right end (scheme II), combination of the six sequences of thicker backers with the eight sequences of thinner backers would theoretically yield forty-eight possible sequences for the west flank as a whole. Instead of listing and investigating all these, however, it is desirable to reduce the number of possible backer sequences at the earliest possible moment. It is unfortunate, at least for our purpose, that dowels were not employed for fastening the frieze backers to the architrave; their absence deprives us of this more exact method of ascertaining the sequence by matching the lower and upper halves of dowel holes. There is, however, another though

less direct method which may serve to simplify the process.[97]

On the tops of the backers are dowel holes and pry cuttings intended for setting and fastening the cornice blocks. In such a course, the corner cornice blocks at north and/or south would normally have been set first, the work then proceeding inward consistently from one or both corners along the flanks. Thus the work might have proceeded in both directions until at the meeting point more or less toward the center a last-laid cornice block was inserted without dowels. West flank cornice blocks north of this last-laid block would have been doweled at their left joints, those south of the last-laid block at their right joints, and vice versa for the east flank.

Of the backers certainly assigned to the west flank, G shows that the cornice above was doweled at the right so that it must have been south of the last-laid cornice, while H requires above it a cornice block doweled at the left and so north of the last-laid cornice. On I the portion of the top which must have contained the dowel is broken off, but a pry cutting remains at the left, suggesting that (as on H) the cornice block above was doweled at the left. Thus the sequences of the thicker intermediate backers on the west are now reduced from six to two, G H I or G I H. Again, among the thinner backers of which three must be assigned to the west flank, all four (K, L, M, O) show that the cornice blocks above were doweled at their left joints; therefore K, M, and either L or O must be placed north of the last-laid cornice and in consequence north of G. Thus all the evidence agrees in demonstrating that G could only have occupied the third position from the south, with two alternative sequences of the thicker backers, and that the last-laid cornice block was the third from the south, across the joint between G and its immediate neighbor toward the north.

These two sequences of the thicker backers, as combined with the four sequences of thinner backers possible in scheme I, would theoretically yield eight possible sequences for the west flank as a whole. Or, as combined with the eight sequences of thinner backers possible in scheme II, they would theoretically yield sixteen possible sequences for the west flank. But it must also be noted that it would be impossible to combine G + K or I + K, not only because of the clamp prongs which would then be turned both in the same direction, but also because of discrepancies in the distances from the face (0.223 vs. 0.258 m. and 0.173 vs. 0.258 m., respectively). Other instances wherein the prong directions would be satisfactory but with discrepancies in the distances occur with G + L and I + O (0.223 vs. 0.162 m. and 0.173 vs. 0.227 m., respectively). Possible combinations with respect to both prong directions and distances occur with G + O, I + L, K + H, K + I, M + H, and M + I; and in view of the absence of evidence we may also consider G + M, H + K, H + L, H + M, H + O, I + M, L + H, L + I, O + H, and O + I. Eliminating sequences wherein the definitely impossible pairing of G + K, G + L, I + K, or I + O would have been required, there remain only one complete sequence in scheme I and three in scheme II, as follows:

I. West (south to north), no. 525 at right

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th
(1)	C	Y	G	M	H	K	I	L	B

II. West (south to north), no. 530 at right

(2)	C	Y	G	M	H	K	I	L	B
(3)	C	Y	G	O	I	M	H	K	B
(4)	C	Y	G	M	I	L	H	K	B

We may first examine backer M, the most distinctive because of the clamp cuttings only 0.130 m. apart, definitely assigned to the west flank in the fourth (1-2, 4) or sixth position (3). Since neither clamp could have been less than 0.015 m. from a slab joint for structural reasons, we may note that the only available slabs showing right-hand clamps less than 0.130 — 0.015 = 0.115 m. from the joint

[97] The principle of elimination with respect to the cornice dowels is applied at this stage in order to shorten the exposition. If, instead of applying it here, all the backer sequences were retained for detailed examination, the successive eliminations with respect to the frieze slabs would eventually lead to the same result, as shown by actual test.

are nos. 521 (unknown), 526 (0.030 m.), 529 (0.105 m.), 532 (0.106 m.), and 533 (0.096 m.), requiring complementary distances which are respectively unknown, 0.090, 0.025, 0.024, and 0.034 m. at the left ends of the following slabs. Conversely, the only available slabs showing left-hand clamps less than 0.115 m. from the joint are nos. 522 (0.027 m.), 526 (0.105 m.), 532 (0.090 m.), and perhaps 534 (0.118 m.).[98] Thus the possible combinations before M in either position on the west flank, with the clamps 0.130 m. apart (eliminating four, 521 + 532, 521 + 534, 526 + 532, and 526 + 534 because on the west flank an Amazon slab could never have been at the right of a Centaur slab), would be only the following five: nos. 521 + 522 (unknown), 521 + 526 (unknown), 529 + 522 (0.132 m.), 532 + 522 (0.133 m.), or 533 + 522 (0.123 m.). But since, according to our previous calculations, no Amazon slab could have appeared on the west flank as far north as the third or fifth from the left,[99] we may eliminate two additional pairs (nos. 532 + 522, 533 + 522), leaving for consideration only three, of which two are included merely because of lack of evidence. These three pairs of slabs would have the following relations to backer M as shown by the fitting of the clamps:

521 + 522 = 1.285 + 1.260 = 2.555 m., extending 1.260 — (0.027 + 0.288) = 0.945 m. to the right of M

521 + 526 = 1.285 + 1.283 = 2.578 m., extending 1.283 — (0.105 + 0.288) = 0.890 m. to the right of M

529 + 522 = 1.326 + 1.260 = 2.586 m., extending 1.260 — (0.026 + 0.288) = 0.946 m. to the right of M

Among the four surviving backer sequences as listed above, the backer to the left of M could only have been one of two thicker backers, G (1-2, 4) or I (3). Of these, we may continue to consider G + M.

If G were the preceding backer (G + M), the preserved right-hand T clamp 0.112 m. from the right joint of G must have corresponded to the left-hand clamp on the first of the two slabs in front of M (nos. 521 or 529). With reference to this clamp on G and those on the three possible pairs of slabs in front of M, we may determine the various possible lengths of M, of which the left end is broken off, as follows:

521 + 522 = 2.555 — (0.170 + 0.112 + 0.945) = 1.328 m.

521 + 526 = 2.578 — (0.170 + 0.112 + 0.890) = 1.404 m.

529 + 522 = 2.586 — (0.149 + 0.112 + 0.946) = 1.379 m.

The average backer length being 1.34 m. (the preserved examples ranging from 1.318 to 1.35 m.), we may accept with some doubt the length required by the pair nos. 521 + 526 (1.404 m.), while admitting with more confidence those required by nos. 521 + 522 (1.328 m.) and 529 + 522 (1.379 m.).

As for the pair I + M (3), this also remains possible in view of the loss of the two T clamps on I. On the other hand, since G is confined to the third position, the backer to the right of M could only have been one of the two other thicker backers, H (1-3) or I (4). Of these, however, it may be shown that the pair M + H would be impossible.

If H were the following backer (M + H), its preserved left-hand T clamp, 0.715 m. from the left joint, must have corresponded to the right-hand clamp on the second of the two slabs in front of M, nos. 522 or 526. But with no. 522 extending 0.945/0.946 m., or with no. 526 extending 0.890 m. to the right of M, according to the foregoing calculations, the right-hand clamp on nos. 522 or 526 would be 0.142 or 0.030 m. closer to M, respectively at distances of 0.803/0.804 or 0.860 m., in any case disagreeing with the distance 0.715 m. measured on H.

Thus we eliminate the three backer sequences containing M + H, leaving only one (4) for consideration, this with three conceivable partial-slab sequences, one of these being doubtful (b, because of the unusually great length required for M):

II. West (south to north), no. 530 at right

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th
(4)	C	Y	G	M	I	L	H	K	B
a	?	531	521	522				530	
b	?	531	521	526				530	
c		531	529	522				530	

[98] Nos. 520 (0.08 m. at right), 523 (0.114 m. at left and less than 0.185 m. at right), and 528 (less than 0.22 m. at left and 0.104 m. at right) are all required for the north frieze, while nos. 541 (unknown at right) and 542 (less than 0.19 m. at left) are both required for the south frieze.

[99] The immediate elimination of all combinations requiring

A most important consequence of this examination is that, with the elimination of the first sequence (1), we have also eliminated scheme I, so far as the actual setting is concerned, proving that no. 530 must have been the right end slab and that the frieze was erected in accordance with scheme II. Furthermore, we have definitely eliminated backer O from the west frieze, so that it must be relegated to the south where it is in most satisfactory agreement with the conditions.

Our previous examination of the corner backers and of the resulting general arrangement has suggested that the Centaur slab no. 524 was employed as the left end slab on the east flank, and that the Amazon slab no. 539 was placed on the west flank as the second slab. Consequently no. 524 would not be a candidate for any position on the west, while no. 539 would assume a position between no. 531 and nos. 521 or 529. Here the backer Y behind no. 539 has not been recovered, and the left-hand clamp on backer G, to which the right-hand clamp on no. 539 should have been adjusted, is broken away. But on the assumption that no. 539 was actually the second slab, we may determine the length of the missing backer Y by adding the known projection of no. 531 beyond C (0.966 m.), the length of no. 539 (1.452 m.), and the distance from the joint to the left-hand clamp on no. 521 (0.170 m.) or no. 529 (0.149 m.), thus obtaining 2.588 m. (with no. 521) or 2.567 m. (with no. 529), from which we subtract the distance from the left joint of backer G to its right-hand clamp (1.206 m.). Thus the interval remaining for Y would be either 1.382 m. (with no. 521) or 1.361 m. (with no. 529), both being satisfactory. If the second Amazon slab were shorter, even that next in length, no. 536 (1.393 m.), which would be possible only if no. 521 were at the left end of the east flank, yielding a rather senseless composition,[100] the length of backer Y would be at least 0.059 m. less and so 1.323 or 1.302 m., respectively. We may, therefore, accept our previous conclusion that no. 539 was the second slab, excluding no. 524 from the west flank.

Another backer definitely from the west flank and now definitely assigned to the eighth position in sequence 4 is K, again showing a pair of T clamps, but in this case so far apart (0.307 m.) as to be less distinctive, in fact admitting as many as thirty-nine pairs of slabs excluding those already assigned to the end friezes (nos. 520 + 527 + 528 + 523, 540 + 541 + 542) and to the south extremities of the flank friezes (nos. 531, 537). Since, however, between nos. 522 or 526 as the fourth slab and no. 530 as the eighth we can be concerned only with Centaur slabs, with no 530 itself as the second slab of the pair, the number of possible pairs before K is reduced to three: nos. 521 + 530 (at least 0.215 m.), 526 + 530 (at least 0.22 m.), and 529 + 530 (at least 0.295 m.). Avoiding duplication, moreover, it is evident that among the foregoing three partial slab sequences the pairs which could fit in front of K would be the following:

(4a) could receive either nos. 526 + 530 or 529 + 530
(4b) could receive only nos. 529 + 530
(4c) could receive either nos. 521 + 530 or 526 + 530

Including these interpolations, and also including no. 539 as the second slab, the three partial sequences would now be increased to five:

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th
(4)	C	Y	G	M	I	L	H	K	B
aa	531	539	521	522			526	530	
ab	531	539	521	522			529	530	
ba	531	539	521	526			529	530	
ca	531	539	529	522			521	530	
cb	531	539	529	522			526	530	

In front of the consecutive group of three backers M + I + L, with satisfactory junctions of the double-L clamps at both of the intervening joints, we have identified the fourth slab as no. 522 or 526, extending respectively 0.945/0.946 or 0.890 m. to

Amazon slabs on the west flank (except nos. 531 and 539) or Centaur slabs on the east flank (except no. 524) will be the procedure adopted in future, since the retention of other combinations would merely serve to prolong the investigation to a useless extent, while leading to their ultimate elimination, as actually tested in the earlier forms of my investigation.

[100] See p. 426.

the right of M. The T clamps on backer I are missing; but the right-hand clamp on the fifth slab must have coincided with the left-hand clamp surviving on backer L, 1.35 + 0.854 = 2.204 m. beyond M, and so 2.204 — 0.945/0.946 = 1.258/1.259 m. beyond no. 522 or 2.204 — 0.890 = 1.314 m. beyond no. 526. Among the Centaur slabs available for the fifth position in these various sequences the distances from the left joints to the right-hand clamps are 1.118 m. (no. 522), 1.140 m. (no. 525), 1.221 m. (no. 529), 1.253 m. (no. 526), and 1.085/1.27 m. (no. 521, 1.285 — 0.015/0.20 m.). It is evident that no possible fifth slab could fit the requirement of 1.314 m. at the right of no. 526 (thus eliminating sequence 4ba), and that only nos. 521 or 526 could fit the requirement of 1.258/1.259 m. at the right of no. 522. Interpolating these alternative candidates for the fifth slab, but again avoiding duplications, it is evident that sequence 4aa must also be eliminated because it could receive neither of the candidates for the fifth slab, thus leaving only three sequences, which may now be completed by inserting no. 525 as the only remaining candidate for the sixth slab (the other Centaur slab, no. 524, being assigned to the east flank):

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th
(4)	C	Y	G	M	I	L	H	K	B
ab	531	539	521	522	526	525	529	530	
ca	531	539	529	522	526	525	521	530	
cb	531	539	529	522	521	525	526	530	

Five of the eight slabs are now positively identified, the first (no. 531), the second (no. 539), the fourth (no. 522), the sixth (no. 525), and the eighth (no. 530), with two candidates for the third (nos. 521 or 529), two for the fifth (nos. 521 or 526), and three for the seventh (nos. 521, 526, or 529). All three sequences would be equally valid with respect to known clamp measurements, though the coincidence that the clamp on no. 526 would exactly fit as the fifth slab, in contrast to the unknown conditions on no. 521, would suggest that sequences 4ab or 4ca are more probable than sequence 4cb.

In the light of these conclusions we may review the conditions at the joints for indications which might suggest either rejection or corroboration.

The first and second slabs, nos. 531 + 539 (which Stackelberg had shown together but bent around the southeast corner), present no evidence except their satisfactory dimensions and composition, befitting the terminal scenes of the Amazonomachy.

The alternatives for the second and third slabs, nos. 539 + 521 (4ab) or 539 + 529 (4ca, cb), the latter proposed by me in 1933 and here retained, again would present no physical difficulties. For even with the latter, the protrusion of 0.006 m. in the Lapith's arm and hip at the left edge of no. 529, being 0.30/0.52 m. above the bottom and entirely free from the background, could have overlapped the blank space of 0.017 m. at the right edge of no. 539. As for composition, however, the fact that no. 521 shows a Centaur at the left, assailing a figure which should have been on the preceding slab, would make it senseless as the beginning of the Centauromachy following no. 539; thus we are limited to nos. 539 + 529 (4ca, cb).

Of the alternatives for the third and fourth slabs, nos. 521 + 522 (4ab) or 529 + 522 (4ca, cb), the former (as combined by Ivanoff, Murray, and Smith) would be possible inasmuch as the protruding shield at the right edge of no. 521 would be lower than the protruding arm at the left edge of no. 522, both being free from the background. But there is no evidence in favor of such a combination. On the other hand, with nos. 529 + 522, never suggested before 1933, we should have the problem of reconciling the protrusion of 0.012 m. in the Centaur's forelegs at the right edge of no. 529, 0.01/0.175 and 0.205/0.265 m. above the bottom, the background beveled behind them and so requiring a chamfer at the left edge of the following slab, with the protrusion of 0.015 m. in the Centaur's arm at the left edge of no. 522, at 0.395/0.55 m. above the bottom and entirely free from the background. These, however, are not incompatible, as was demonstrated by actual juxtaposition of the two slabs in 1932 (fig. 14).[101] Not only is this the only positive combination fitting backer M and at the same time suitable for the west flank (as distinguished from the two negative combinations nos. 521 + 522 or 521 + 526, of which the latter has now been eliminated with sequence 4ba), but

[101] *MMS* IV, 226, figs. 19, 22, pls. i-ii.

A most important consequence of this examination is that, with the elimination of the first sequence (1), we have also eliminated scheme I, so far as the actual setting is concerned, proving that no. 530 must have been the right end slab and that the frieze was erected in accordance with scheme II. Furthermore, we have definitely eliminated backer O from the west frieze, so that it must be relegated to the south where it is in most satisfactory agreement with the conditions.

Our previous examination of the corner backers and of the resulting general arrangement has suggested that the Centaur slab no. 524 was employed as the left end slab on the east flank, and that the Amazon slab no. 539 was placed on the west flank as the second slab. Consequently no. 524 would not be a candidate for any position on the west, while no. 539 would assume a position between no. 531 and nos. 521 or 529. Here the backer Y behind no. 539 has not been recovered, and the left-hand clamp on backer G, to which the right-hand clamp on no. 539 should have been adjusted, is broken away. But on the assumption that no. 539 was actually the second slab, we may determine the length of the missing backer Y by adding the known projection of no. 531 beyond C (0.966 m.), the length of no. 539 (1.452 m.), and the distance from the joint to the left-hand clamp on no. 521 (0.170 m.) or no. 529 (0.149 m.), thus obtaining 2.588 m. (with no. 521) or 2.567 m. (with no. 529), from which we subtract the distance from the left joint of backer G to its right-hand clamp (1.206 m.). Thus the interval remaining for Y would be either 1.382 m. (with no. 521) or 1.361 m. (with no. 529), both being satisfactory. If the second Amazon slab were shorter, even that next in length, no. 536 (1.393 m.), which would be possible only if no. 521 were at the left end of the east flank, yielding a rather senseless composition,[100] the length of backer Y would be at least 0.059 m. less and so 1.323 or 1.302 m., respectively. We may, therefore, accept our previous conclusion that no. 539 was the second slab, excluding no. 524 from the west flank.

Another backer definitely from the west flank and now definitely assigned to the eighth position in sequence 4 is K, again showing a pair of T clamps, but in this case so far apart (0.307 m.) as to be less distinctive, in fact admitting as many as thirty-nine pairs of slabs excluding those already assigned to the end friezes (nos. 520 + 527 + 528 + 523, 540 + 541 + 542) and to the south extremities of the flank friezes (nos. 531, 537). Since, however, between nos. 522 or 526 as the fourth slab and no. 530 as the eighth we can be concerned only with Centaur slabs, with no 530 itself as the second slab of the pair, the number of possible pairs before K is reduced to three: nos. 521 + 530 (at least 0.215 m.), 526 + 530 (at least 0.22 m.), and 529 + 530 (at least 0.295 m.). Avoiding duplication, moreover, it is evident that among the foregoing three partial slab sequences the pairs which could fit in front of K would be the following:

(4a) could receive either nos. 526 + 530 or 529 + 530
(4b) could receive only nos. 529 + 530
(4c) could receive either nos. 521 + 530 or 526 + 530

Including these interpolations, and also including no. 539 as the second slab, the three partial sequences would now be increased to five:

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th
(4)	C	Y	G	M	I	L	H	K	B
aa	531	539	521	522			526	530	
ab	531	539	521	522			529	530	
ba	531	539	521	526			529	530	
ca	531	539	529	522			521	530	
cb	531	539	529	522			526	530	

In front of the consecutive group of three backers M + I + L, with satisfactory junctions of the double-L clamps at both of the intervening joints, we have identified the fourth slab as no. 522 or 526, extending respectively 0.945/0.946 or 0.890 m. to

Amazon slabs on the west flank (except nos. 531 and 539) or Centaur slabs on the east flank (except no. 524) will be the procedure adopted in future, since the retention of other combinations would merely serve to prolong the investigation to a useless extent, while leading to their ultimate elimination, as actually tested in the earlier forms of my investigation.

[100] See p. 426.

the right of M. The T clamps on backer I are missing; but the right-hand clamp on the fifth slab must have coincided with the left-hand clamp surviving on backer L, 1.35 + 0.854 = 2.204 m. beyond M, and so 2.204 — 0.945/0.946 = 1.258/1.259 m. beyond no. 522 or 2.204 — 0.890 = 1.314 m. beyond no. 526. Among the Centaur slabs available for the fifth position in these various sequences the distances from the left joints to the right-hand clamps are 1.118 m. (no. 522), 1.140 m. (no. 525), 1.221 m. (no. 529), 1.253 m. (no. 526), and 1.085/1.27 m. (no. 521, 1.285 — 0.015/0.20 m.). It is evident that no possible fifth slab could fit the requirement of 1.314 m. at the right of no. 526 (thus eliminating sequence 4ba), and that only nos. 521 or 526 could fit the requirement of 1.258/1.259 m. at the right of no. 522. Interpolating these alternative candidates for the fifth slab, but again avoiding duplications, it is evident that sequence 4aa must also be eliminated because it could receive neither of the candidates for the fifth slab, thus leaving only three sequences, which may now be completed by inserting no. 525 as the only remaining candidate for the sixth slab (the other Centaur slab, no. 524, being assigned to the east flank):

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th
(4)	C	Y	G	M	I	L	H	K	B
ab		531	539	521	522	526	525	529	530
ca		531	539	529	522	526	525	521	530
cb		531	539	529	522	521	525	526	530

Five of the eight slabs are now positively identified, the first (no. 531), the second (no. 539), the fourth (no. 522), the sixth (no. 525), and the eighth (no. 530), with two candidates for the third (nos. 521 or 529), two for the fifth (nos. 521 or 526), and three for the seventh (nos. 521, 526, or 529). All three sequences would be equally valid with respect to known clamp measurements, though the coincidence that the clamp on no. 526 would exactly fit as the fifth slab, in contrast to the unknown conditions on no. 521, would suggest that sequences 4ab or 4ca are more probable than sequence 4cb.

In the light of these conclusions we may review the conditions at the joints for indications which might suggest either rejection or corroboration.

The first and second slabs, nos. 531 + 539 (which Stackelberg had shown together but bent around the southeast corner), present no evidence except their satisfactory dimensions and composition, befitting the terminal scenes of the Amazonomachy.

The alternatives for the second and third slabs, nos. 539 + 521 (4ab) or 539 + 529 (4ca, cb), the latter proposed by me in 1933 and here retained, again would present no physical difficulties. For even with the latter, the protrusion of 0.006 m. in the Lapith's arm and hip at the left edge of no. 529, being 0.30/0.52 m. above the bottom and entirely free from the background, could have overlapped the blank space of 0.017 m. at the right edge of no. 539. As for composition, however, the fact that no. 521 shows a Centaur at the left, assailing a figure which should have been on the preceding slab, would make it senseless as the beginning of the Centauromachy following no. 539; thus we are limited to nos. 539 + 529 (4ca, cb).

Of the alternatives for the third and fourth slabs, nos. 521 + 522 (4ab) or 529 + 522 (4ca, cb), the former (as combined by Ivanoff, Murray, and Smith) would be possible inasmuch as the protruding shield at the right edge of no. 521 would be lower than the protruding arm at the left edge of no. 522, both being free from the background. But there is no evidence in favor of such a combination. On the other hand, with nos. 529 + 522, never suggested before 1933, we should have the problem of reconciling the protrusion of 0.012 m. in the Centaur's forelegs at the right edge of no. 529, 0.01/0.175 and 0.205/0.265 m. above the bottom, the background beveled behind them and so requiring a chamfer at the left edge of the following slab, with the protrusion of 0.015 m. in the Centaur's arm at the left edge of no. 522, at 0.395/0.55 m. above the bottom and entirely free from the background. These, however, are not incompatible, as was demonstrated by actual juxtaposition of the two slabs in 1932 (fig. 14).[101] Not only is this the only positive combination fitting backer M and at the same time suitable for the west flank (as distinguished from the two negative combinations nos. 521 + 522 or 521 + 526, of which the latter has now been eliminated with sequence 4ba), but

[101] *MMS* IV, 226, figs. 19, 22, pls. i-ii.

it is actually corroborated by the dressing of the joints. At the right edge of no. 529 the Centaur's left foreleg protrudes at most 0.012 m. just at the fetlock, 0.08 m. above the bottom, the bevel behind it dying away below at 0.01 m. and above at 0.175 m. above the bottom; the knee is at the height of 0.16 m. above the bottom. Again, the raised right foreleg has the knee sharply protruding to the extent of 0.010 m. at a height of 0.265 m. above the bottom, receding to the joint line at a distance of 0.205 m. above the bottom. At the left edge of no. 522 a Centaur's knee comes up to the joint line at 0.15/0.18 m. above the bottom and so between the two protrusions at the right edge of no. 529; thus there is no actual conflict. Above and below this knee the background of no. 522 is either blank or carved in low relief, the receding lower leg clearing the bevel behind the protruding left foreleg of no. 529. The junction is facilitated by the fact that, when the upper and lower edges of the two slabs are placed in alignment, the more convex background of no. 529 would be in advance of the flatter background at the left edge of no. 522. Furthermore, the left edge of no. 522 is roughly dressed back for a depth of 0.004 m. to a height of 0.175 m. above the bottom, to accommodate the protruding left foreleg of no. 529; and above this point the left edge of no. 522 is roughly hacked to fit the upper protrusion of the Centaur's right foreleg of no. 529. This juxtaposition raises the combination of nos. 529 + 522 from a questionable possibility (as it had seemed while they were separated in the Museum by six intervening slabs), though demanded by a lengthy process of elimination, to a positive certainty, thus limiting us to sequence 4ca or 4cb.

As for the two possibilities for the fourth and fifth slabs, nos. 522 + 521 (4cb) or 522 + 526 (4ab, ca), the first had been proposed by me in 1931, the second by Cockerell. Among these two there are no physical conflicts. On the other hand, with nos. 522 + 526, the protrusion of 0.004 m. in the Centaur's amputated tail at the left edge of no. 526, at 0.235/0.275 m. above the bottom, the background curving out with it, would have required a bevel at the right edge of no. 522; and this in fact exists, particularly between 0.23 and 0.26 m. above the bottom, tapering off at 0.32 m. above, forming almost conclusive evidence of the junction of nos. 522 + 526. Thus we may prefer the sequence nos. 522 + 526 (4ab, ca), with possible consideration also of nos. 522 + 521 (4cb).

Again with respect to the two possibilities for the fifth and sixth slabs, nos. 521 + 525 (4cb) or 526 + 525 (4ab, ca), of which neither pair has been previously suggested, neither would present physical conflicts. Either the protrusion of 0.007 m. in the Lapith's shield at the right edge of no. 521, at 0.15/0.22 m. above the bottom, or the protrusion of 0.002 m. in the Centaur's shoulder at the right edge of no. 526, at 0.26/0.30 m. above the bottom, both free from the background, would be lower than the Lapith's hand at the left edge of no. 525.

Among the three possibilities for the sixth and seventh slabs, nos. 525 + 521 (4ca), 525 + 526 (4cb), or 525 + 529 (4ab), only the pairing of nos. 525 + 526 has been previously suggested by Murray and Smith. This, however, would be quite unsatisfactory, since the protrusion of 0.004 m. in the Centaur's amputated tail at the left edge of no. 526, 0.235/0.275 m. above the bottom, the background curving out with it, would require a compensating bevel at the right edge of no. 525, where no such bevel exists, thus eliminating sequence 4cb. In the case of nos. 525 + 521 there would be no conflict; and also with nos. 525 + 529 the protrusion of 0.006 m. in the Lapith's arm and hip at the left edge of no. 529, at 0.30/0.52 m. above the bottom and entirely free from the background, could have overlapped the right edge of no. 525.

Of the three possibilities for the seventh and eighth slabs, nos. 521 + 530 (4ca), 526 + 530 (4cb), or 529 + 530 (4ab), the second had been proposed by me in 1931, and the third had been suggested by Cockerell, Murray, and Smith. Any one of these, to be sure, would be physically possible. For the protrusion of 0.007 m. in the Lapith's shield at the right joint of no. 521, 0.15/0.22 m. above the bottom, or that of 0.002 m. in the Centaur's shoulder at the right joint of no. 526, 0.26/0.30 m. above the bottom, both entirely free from the background, could have overlapped the missing lower half of the left edge of no. 530. And even the protrusions up to 0.012 m. in the Centaur's forelegs at the right joint of no. 529, at 0.01/0.175 and 0.205/0.265 m. above the bottom, the background beveled behind them in such a way as to require a compensating bevel at the left edge of no. 530, is not to be rejected in view of the unknown conditions on the missing lower portion of the left edge of no. 530.

Summarizing and combining these results of the examination of the joints, it now appears that sequence 4ab is to be rejected because of the composition of nos. 539 + 521, even though it contains

the apparently positive connection of nos. 522 + 526. And sequence 4cb is also to be rejected because of the apparently impossible junction of nos. 525 + 526, even though it contains the positive junction of nos. 529 + 522. Thus we are left with only one sequence, 4ca, which encounters no difficulties at any of the joints and at the same time contains two positive connections, nos. 529 + 522 and 522 + 526.

The sole surviving sequence (4ca), therefore, presents the slabs in the following order from left to right: nos. 531 + 539 + 529 + 522 + 526 + 525 + 521 + 530. This differs from my published arrangement of 1933 only in the right-hand half, where the former sequence of nos. 521 + 526 + 530 + 525 is now altered by thrusting no. 521 two places and no. 530 one place toward the right, compensated by thrusting no. 525 two places and no. 526 one place toward the left. In the new order, the first four slabs (nos. 531 + 539 + 529 + 522) remain as in my previous arrangement, and the only combination otherwise previously suggested is Cockerell's pair nos. 522 + 526.

We have still to examine the conditions at the northwest corner, where the elimination of backer sequence 1 of system I (because of the impossibility of combining M + H), has led to the surprising result that slab no. 530, so clearly indicated by the architrave dowels as the second slab from the right end, was actually set as the right corner slab itself. It is a question, therefore, of the feasibility of joining nos. 530 + 520 at right angles at the northwest corner. This, not previously suggested, had been rejected by me in 1931, partly because of the abovementioned evidence from the architrave dowels as to the position of no. 530, and also because of an apparent collision between the Centaur's body at the left edge of no. 520, at least as the sculptor carved it, and the woman's drapery at the right edge of no. 530. When, however, the new evidence of 1937 as to the sequence of the frieze backers necessitated certain transpositions on the west flank, and particularly the elimination of all slab sequences which would have placed no. 530 in the second position from the right, it became possible in 1939 through Ashmole's kindness actually to place these two slabs nos. 530 + 520 at right angles to each other (fig. 15). It then appeared that, while the female figures on nos. 530 and 520 would be uncomfortably close together from the viewpoint of design, yet the juxtaposition is physically a possible one. The upper right corner of no. 530 is missing to a distance of 0.17 m. below the top; and only because of the plaster restoration, which ought rather to have curved forward in conformity with the hollowing of the background, did it seemingly leave a gap of 0.015 m. at the corner. Conversely, the lower left corner of no. 520 is broken away for a height of 0.08 m. above the bottom, so that the restored plaster background failed to close the gap. Higher on no. 520 the left edge is hacked for 0.105/0.19 m. above the bottom, where there should have been some suggestion of the Centaur's missing forelegs; and the lower right corner of no. 530 is retooled and beveled back as if to allow for some abutting object at right angles, as if the two slabs were roughly mitered to fit together. Likewise the right arm of the Centaur at the left edge of no. 520 is roughly beveled as if for mitering; and the knee of the woman on no. 520 seems to correspond to a gash on the drapery of the woman at the right edge of no. 530, exactly where it would have come into contact. In other words, the corner combination of nos. 530 + 520 seems to be assured, the poor composition resulting from the fact that the long slab no. 530 was shifted during erection from the seventh position, as originally located according to the architrave dowels, to the corner.[102]

We may now, as a final test, check the spacing of the backer joints for the purpose of ascertaining whether the lengths of the individual backers are in sufficiently close agreement with the normal average length 1.342 m. In the following table, where the backer lengths are measured both individually and cumulatively (for convenience of comparison, between the corners of the frieze rather than between the interior corners of the backers themselves), it appears that, with the northwest corner backer B restored with a length of 1.165 m. to balance A, the seven intermediate backers range from 1.309 to 1.379 m., averaging 1.3425 m.

[102] For the probable reason see p. 445.

Frieze slabs		cumulative	Backers cumulative		
	0.226 m.	0.226 m.			
			0.380 m.	0.380 m.	C
	0.249 m.	1.097 m.			
531	1.346 m.	1.346 m.			
	0.15 + m.	1.496 + m.			
			1.741 m.	1.361 m.	Y
	0.130 m.	2.668 m.			
539	1.452 m.	2.798 m.			
	0.149 m.	2.947 m.	2.947 m.		
			3.059 m.	1.318 m.	G
	0.105 m.	4.019 m.	4.019 m.		
529	1.326 m.	4.124 m.			
	0.027 m.	4.151 m.	4.151 m.		
			4.438 m.	1.379 m.	M
	0.142 m.	5.242 m.			
522	1.260 m.	5.384 m.			
	0.105 m.	5.489 m.			
			5.783 m.	1.45 m.	I
	0.030 m.	6.637 m.	6.637 m.		
526	1.283 m.	6.667 m.			
	0.195 m.	6.862 m.			
			7.092 m.	1.309 m.	L
	0.207 m.	7.807 m.	7.807 m.		
525	1.347 m.	8.014 m.			
	0.170 m.	8.184 m.			
			ca. 8.423 m.	1.331 m.	H
	0.015/0.20 m.	9.099/9.284 m.	ca. 9.9190 m.		
521	1.285 m.	9.299 m.			
	0.19/0.39 m.	9.489/9.689 m.	ca. 9.497 m.		
			ca. 9.772 m.	1.349 m.	K
	0.343/0.628 m.	10.314/10.599 m.			
530	1.643 m.	10.942 m.	10.942 m.	ca. 1.170 m.	B

Sequence of the East Backers and Frieze Slabs

The east frieze, as composed on the basis of our previous evidence, included the following slabs: nos. 524 + (532 + 533 + 534 + 535 + 536 + 538) + 537, with a total length of 10.942 m. at the top (besides 0.009 m. of no. 537 concealed in the rebate at the southeast corner). It is now a question of determining the sequence of the six intermediate slabs, for which it is again necessary to resort to the backers, of which, apart from the corner backers A at the northeast and the missing southeast corner block (Z), we have identified two of the three heavier backers (E, F, that missing designated as X) and either one or two of the four thinner backers (N, P, the missing backers designated as Y).

As on the west flank, there could be six theoretical transpositions of the two known thicker backers:

East (north to south)

1st	3rd	5th	7th	9th
A	E	F	X	Z
A	E	X	F	Z
A	F	E	X	Z
A	F	X	E	Z
A	X	E	F	Z
A	X	F	E	Z

Of these thicker backers only E retains on the top both the dowel hole and pry cutting for the cornice block above, their relative positions showing that the latter was doweled at the right and conse-

quently must have been north of the last-laid cornice; it is very improbable, therefore, that E would have been as far south as the seventh backer position. The other thicker backer F has only a pry cutting, unusually far toward the right (like a second pry cutting on E) but with no trace of a dowel hole near it.

There is, moreover, another criterion which would not have been applicable to the irregular frieze jointing of the west flank, but is very useful in connection with the fairly regular frieze jointing on the east. This is the tendency of the frieze joints to lie south of the backer joints by increasing amounts as one proceeds from north to south, theoretically as follows:

0.203, 0.229, 0.255, 0.280, 0.306, 0.332, 0.358, and 0.383 m.[103] On E the two clamps are about 0.07 and 0.449 m. from the north end (mean 0.260 m.),[104] while on F the surviving right-hand clamp is 0.860 m. from the south end and so about 1.34 — 0.860 = 0.48 m. from the missing north end. Since the average clamp interval on the backers is 0.29 m. (0.130 m. on M, 0.227 m. on P, 0.307 m. on K, 0.379 m. on E, and 0.403 m. on N), we might infer that the two clamps on F were about 0.19 and 0.48 m. (mean 0.335 m.) from the missing north end. The difference of about 0.335 — 0.260 = 0.075 m., as well as the mean distances from the north ends, 0.260 and ca. 0.335 m., suggest that these two backers were in the fifth (E) and seventh (F) positions (theoretically 0.280 and 0.332 m.); although the exact difference is hypothetical, we may at least infer that E was north of F. This is in agreement with the cornice dowel which implies that E would hardly have been as far south as the seventh position (i.e., south of F). We may, therefore, eliminate the three sequences which would locate E south of F, and particularly in the seventh position, leaving only three reasonable sequences: E F X, E X F, or X E F. Thus E could have been in the third position (twice) or in the fifth (once), and F in the fifth position (once) or in the seventh (twice).

For the thinner backers N and/or P (one of these being assignable to the south frieze) there would be four theoretical positions. But since neither of these could have been in the second position adjoining A, because of the discrepant directions of the clamp prongs (both of them turned in the same direction) and also because of the slightly discrepant distances (0.223 m. on A, 0.205 and 0.238 m. on N and P), the second position must have been occupied by one of the missing thinner backers (Y), with N and P assigned to the three remaining positions in six variant sequences:

East (north to south)

2nd	4th	6th	8th
Y	N	P	Y
Y	N	Y	P
Y	Y	N	P
Y	P	N	Y
Y	P	Y	N
Y	Y	P	N

These six sequences of the thinner backers might theoretically be combined with the three sequences of the thicker backers in eighteen sequences. When, however, we compare the double-L clamps crossing the joints, it is to be noted that, although E + N, E + P, F + N, and F + P would be possible with respect to the prong directions, as well as N + E, N + F, P + N, and P + F because of the loss of the clamp evidence, nevertheless we must exclude E + P (0.201 vs. 0.238 m.) and F + P (0.200 vs. 0.238 m.) because of the discrepant distances from the faces. In consequence, in twelve of the eighteen sequences it would be necessary to relegate P to the south frieze, its position on the east flank being taken by a missing backer Y.

Again, among the thinner backers, the left half of P shows a pry cutting for the cornice in the proper position, but the dowel hole which should have accompanied it must have been farther toward the right in the lost portion. Above P, therefore, the cornice block would seem to have been doweled at the left, so that P, if on the east flank, should be south of the last-laid cornice. In other words, P could not have been north of E, even if the latter were in the fifth position. Thus in two more of the eighteen sequences it would be necessary to relegate P to the south frieze, replacing it on the east flank by a missing backer Y. The left end of N is too short to exhibit any evidence of this nature and so must be regarded as ambiguous.

Finally, we have the additional criterion of the locations of the pairs of T clamps, those on N being 0.043 and 0.446 m. from the north end (mean 0.245 m.), and those on P being 0.127 and 0.354 m.

[103] See p. 426.

[104] Only a vestige of the head of the left-hand clamp remains on E, extending to 0.095 m. from the joint, so that the shank may be restored as 0.07 m. from the joint.

from the north end (mean 0.240 m.), implying practically identical positions, corresponding closely to the theoretical 0.255 m. estimated for the fourth position. According to this evidence, neither could have been south of both backers E and F, certainly at least not in the eighth position, though the sixth position might be tentatively considered if F were in the seventh. Thus, in twelve of the eighteen sequences (including four of those previously so treated) it would be necessary to shift either N or P to the south frieze.

Correlating these results, it appears that there are five sequences wherein, for one reason or another, *both* of the backers N and P would be relegated to the south frieze, which of course is an impossibility. Eliminating these five, there remain thirteen possible sequences, of which five would be duplications, thus leaving eight for consideration:

East (north to south)

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th
(1)	A	Y	E	N	F	Y	X	Y	Z
(2)	A	Y	E	Y	F	N	X	Y	Z
(3)	A	Y	E	N	X	P	F	Y	Z
(4)	A	Y	E	N	X	Y	F	Y	Z
(5)	A	Y	E	Y	X	P	F	Y	Z
(6)	A	Y	E	Y	X	N	F	Y	Z
(7)	A	Y	X	N	E	Y	F	Y	Z
(8)	A	Y	X	Y	E	N	F	Y	Z

Among these, it is apparent that in six sequences (1, 2, 4, 6, 7, 8) backer P is relegated to the south frieze and replaced by Y, while in one other (5) it is backer N that is relegated to the south frieze and replaced by Y; only in one sequence (3) could both N and P appear simultaneously on the east flank.[105] Among the east flank sequences, therefore, P could have appeared only in the sixth position (twice), while N could have appeared either in the fourth position (four times) or in the sixth (three times).

Examining first the thicker backer E, showing a pair of T clamps 0.379 m. apart, experiment with the available slabs (excluding nos. 524 and 537 at the left and right ends) shows that this interval could be filled only by nos. 538 + 535, on which the clamps would have been 0.172 + 0.208 = 0.380 m. apart. Similarly, experiment with the thinner backer N, on which the T clamps are 0.403 m. apart, shows that this interval could be filled only by nos. 534 + 535 (0.199 + 0.208 = 0.407 m.) — this however being impossible because no. 535 is required as the second slab in front of E — or by nos. 534 + 538 (0.199 + 0.199 = 0.398 m.). There are only two alternatives, one being to place N in the eighth position from the north, adjoining the missing southeast corner backer Z and thus behind no. 537 (of which the left-hand clamp is broken away); but such a combination would not only be very unlikely, the left end of N then being 1.40/1.655 m. from the south frieze[106] or 9.285/9.54 m. from the north frieze, as contrasted with the theoretical joint location ca. 9.229 m. from the north frieze), but we have also excluded N from the eighth position on other grounds. The other alternative would be to place N behind slabs nos. 541 + 542 of the south frieze, where the clamps are missing; but this position, as will be shown, must be reserved for backer P. We therefore place N immediately to the left of E on the east flank, thus obtaining a sequence of two backers, N + E = 1.368 + 1.340 = 2.708 m.,[107] and of three slabs nos. 534 + 538 + 535 = 1.338 + 1.365 + 1.391 = 4.094 m. The sequence of nos. 534 + 538 demonstrates that the socket at the right edge of no. 534

[105] If in sequence 3 the backer P should be relegated to the south frieze, 3 would duplicate 4; or if in sequence 3 the backer N should be relegated to the south frieze, 3 would duplicate 5.

[106] The right-hand clamp on N would then have been within a break which begins 0.12 m. from the left end of no. 537, but no more than 0.375 m. from the left end because the left-hand clamp on N must have fitted the preceding slab; thus 1.331 − 0.12/0.375 = 0.955/1.21 m. for the distance of the right-hand clamp, 0.955/1.21 + 0.445 = 1.40/1.655 m. for the distance of the north end of N, from the south frieze.

[107] That is, N projects 0.045 + 0.199 = 0.244 m. north of no. 538, while E overlaps 0.07 + 0.171 = 0.241 m. of no. 538; thus 0.244 + 1.365 − 0.241 = 1.368 m., this being the length of N as restored.

has no other meaning than that of mending a fault in the marble, as we have already interpreted it.[108]

Testing backers N + E in the only two available locations, the fourth-to-fifth and the sixth-to-seventh positions (since N could not have occupied the second, adjoining A), the left end of N would theoretically have been ca. 3.849 or 6.533 m. from the north frieze.[109] Since the left end of no. 534 extended 0.118 + 1.021 — 0.045 = 1.094 m. north of N, its distance from the north frieze would have been either ca. 3.849 — 1.094 = 2.755 m. or ca. 6.533 — 1.094 = 5.439 m.; subtracting 1.373 m. for no. 524, there would remain either ca. 1.382 m. for one slab or ca. 4.066 m. for three. Conversely, the distance of the right end of E would theoretically have been ca. 6.533 or 9.217 m. from the north frieze, ca. 4.409 or 1.725 m. from the south frieze. The distance of the right end of no. 535, projecting 0.292 m. south of E, would then have been either ca. 4.409 — 0.292 = 4.117 m. or ca. 1.725 — 0.292 = 1.433 m. from the south frieze; and, subtracting 1.331 m. for no. 537, there would remain either ca. 2.786 m. for two slabs or a gap of ca. 0.102 m. But if this gap were closed by bringing nos. 535 + 537 into contact, thus locating E in the seventh position, the distance from E to the south frieze would be only 0.292 + 1.331 = 1.623 m., that is, ca. 1.708 m. to the interior corner of the frieze backer Z; and if the length of this missing southeast corner backer Z were 0.468 m. to correspond to C on the west flank, there would remain a very inadequate length of ca. 1.240 m. for the missing intervening backer Y. Apart from this insufficient length, the fact that the cornice dowel hole and pry cutting on the top of E show that the cornice above was doweled at the right, and consequently must be north of the last-laid cornice, would make it very improbable, as we have seen, that E should have been as far south as the seventh backer position. Again, with E in the seventh position, the other surviving thicker backer F would have to be located farther north in the fifth or third position, which would be contrary to the general rule that on this fairly regularly jointed east flank the pairs of clamps must have been progressively farther from the left ends of the backers as one proceeded from north to south. Finally, the composition of slabs nos. 535 + 537 as placed together would be rather unsatisfactory, uniting a cluster of three Greeks in a single group. For all these reasons, we may conclude that E should be rejected from the seventh position and placed in the fifth.

With N + E restricted to the fourth and fifth backer positions, thus limiting us to a single backer sequence (7), nos. 534 + 538 + 535 become the third, fourth, and fifth slabs. The theoretical interval of ca. 1.382 m. between nos. 524 and 534, as estimated above, could hardly have been filled by any other than no. 532 (1.391 m.), since the blank space of 0.14 m. at its left edge, demonstrably not fitting into a corner (as proposed by Stackelberg, Cockerell, Ivanoff, Lange, Murray, and Smith), would at least indicate that it formed the beginning slab of the Amazonomachy (as Stackelberg and Lange had inferred, though placing it at a corner), with the broad empty space separating it from the tree which forms the full stop of the Centauromachy on no. 524.[110]

The remaining length of 10.942 — (1.373 + 1.391 + 4.094) — 1.331 = 2.753 m. for the sixth and seventh slabs toward the south end must have been occupied, by elimination, by the two other slabs nos. 533 (1.360 m.) and 536 (1.393 m.), in a sequence yet to be determined. The thicker backer F retains only one T clamp, 0.860 m. from the right end. This could not have been in the third position, immediately at the left of N, because the resulting distance 0.860 + 0.043 = 0.903 m. between the clamps on F + N would have disagreed with the interval of 1.021 m. between the clamps on no. 534. Therefore backer F must be assigned to the seventh position, in agreement with the fact that on this fairly regularly jointed east flank the clamps on F, being slightly farther from the left end, should be south of those on E. Placing the right end of F ca. 9.217 m. from the north frieze or ca. 1.725 m. from the south frieze, the surviving clamp on F would be ca. 0.860 + 1.725 = 2.585 m. from the south frieze. Subtracting 1.331 m. for no. 537, there would remain ca. 1.252 m. for the distance from the right end of the preceding slab to its left-hand clamp, perhaps fitting no. 536 (1.261 m.) more closely than no. 533 (1.203 m.), yet the discrepancies from the purely theoretical positions are so slight as to be virtually indistinguishable. Thus the terminal sequence might have been, so

[108] The same sequence of the three slabs nos. 534 + 538 + 535 and the two backers N + E (there designated as L + D) was proposed in 1933 (*MMS* IV, fig. 19, pl. i), but with backer E (there called D) wrongly located midway between columns in the sixth position from the north.

[109] See table on p. 426.

[110] *MMS* IV, 224, pls. i-ii. The sequence of nos. 524 + 532 had been adopted by Stackelberg and Lange, though at right angles in a corner.

far as the clamps are concerned, either nos. 535 + 533 + 536 + 537 or nos. 535 + 536 + 533 + 537. But, with regard to subject matter, the sequence nos. 535 + 533 + 536 would have been absurd, with the Greek at the left edge of no. 533 smiting the back of the Greek at the right edge of no. 535. Likewise the pair nos. 533 + 536 would be unfortunate in bringing together on either side of the joint a wounded and a fallen Amazon, whereas nos. 536 + 533 form a satisfactory composition, with the Greek at the left edge of no. 533 assailing the Amazon at the right edge of no. 536. For these reasons we may accept the sequence nos. 535 + 536 + 533 + 537. The slight amputation of the Greek's elbow at the right edge of no. 535 resulted from crowding nos. 535 and 536 together, and the slight shortening of no. 533 with the curtailing of the Amazon's drapery at the right edge was due merely to the necessity of squeezing it into the given space; the drapery might have been allowed to overlap the blank space at the left edge of no. 537, were it not that those who set the Amazon slabs seem to have regarded overlapping with disfavor.[111]

With backers N and E assigned to the fourth and fifth positions, there remains for consideration only one backer sequence, in which F takes its proper position as the seventh:

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th
(7)	A	Y	X	N	E	Y	F	Y	Z
	524	532	534	538	535	536	533	537	

In the east frieze sequence as thus determined we find no place for the thinner backer P, which has a pair of T clamps 0.227 m. apart and so, if it were on the east flank, might otherwise have fitted several pairs:

nos. 532 + 534 (0.224 m.)
nos. 532 + 536 (0.238 m.)
nos. 532 + 537 (more than 0.226 m.)
nos. 533 + 534 (0.214 m.)
nos. 533 + 536 (0.228 m.)
nos. 533 + 537 (more than 0.216 m.)
nos. 536 + 532 (0.220 m.)

But it may be shown that all of these would be unsatisfactory, so that, both for internal reasons and to fit the backer sequence as a whole, P must be relegated to the south frieze.

We reject the pairs nos. 532 + 534 and 532 + 536 since, with no. 532 as the second slab, a thicker backer (X) would have been required behind them; and nos. 532 + 537 would have been separated by five intervening slabs. Also impossible would be nos. 533 + 534, requiring a thicker backer (X) behind them in view of the fact that no. 534 must have been the third slab, the left-hand slab in front of N. The pair nos. 533 + 536, as the sequence has been worked out, must have stood in front of the thicker backer F, and in the reversed order. And the pair nos. 536 + 532 must be rejected as being in the wrong order, no. 532 beginning the Amazonomachy. There remains only the pair nos. 533 + 537, which would, in fact, have required a thinner backer behind them in the eighth position. Placing P here in accordance with the right-hand clamp on no. 533, it would extend 0.127 + 0.096 = 0.223 m. north of no. 537 and so 0.223 + 1.331 = 1.554 m. north of the south frieze, its north end lying 10.942 − 1.554 = 9.388 m. from the north frieze. Not only would this disagree with the estimated position of this backer joint as ca. 9.217 m. from the north frieze, but the distance between the clamps on F + P would have been 0.860 + 0.127 = 0.987 m., disagreeing with the interval 1.107 m. on no. 533. We have, moreover, found other reasons for eliminating P from the eighth position, and for rejecting the pairing of nos. 533 + 537 from the viewpoint of sculptural composition.

It remains only to test the spacing of the backer joints and to ascertain that the lengths of the individual backers are in agreement with the normal average length 1.342 m. In the following table the resulting backer intervals of 2.693 m. (for the second and third) and 2.709 m. (for the sixth and seventh) are arbitrarily halved.

[111] This east frieze sequence, nos. 524 + 532 +534 + 538 + 535 + 536 + 533 + 537, differs from that which I had proposed in 1933 (*MMS* IV, pls. i-ii), namely, nos. 524 + 532 + 533 + 534 + 538 + 535 + 536 + 537, solely in the transfer of the group nos. 534 + 538 + 535 + 536 toward the left by one position, because of the new position required for backer E, inserting between nos. 536 and 537 the slab thus displaced, no. 533.

Frieze slabs		cumulative	Backers	cumulative	
	0.209 m.	0.209 m.			
			1.165 m.	1.165 m.	A
	0.158 m.	1.215 m.			
524	1.373 m.	1.373 m.			
	0.090 m.	1.463 m.			
			ca. 2.511 m.	ca. 1.346 m.	Y
	0.106 m.	2.658 m.			
532	1.391 m.	2.764 m.			
	0.118 m.	2.882 m.			
			3.858 m.	ca. 1.347 m.	X
	0.199 m.	3.902 m.	3.902 m.		
534	1.338 m.	4.102 m.			
	0.199 m.	4.302 m.	4.302 m.		
			5.226 m.	1.368 m.	N
	0.172 m.	5.295 m.	5.295 m.		
538	1.365 m.	5.467 m.			
	0.208 m.	5.675 m.	5.675 m.		
			6.566 m.	1.340 m.	E
	0.158 m.	6.700 m.			
535	1.391 m.	6.858 m.			
	0.132 m.	6.990 m.			
			ca. 7.920 m.	ca. 1.354 m.	Y
	0.130 m.	8.121 m.			
536	1.393 m.	8.251 m.			
	0.157 m.	8.408 m.	8.408 m.		
			9.275 m.	ca. 1.355 m.	F
	0.096 m.	9.515 m.			
533	1.360 m.	9.611 m.			
	0.12 + m.	9.73 + m.			
			ca. 10.582 m.	ca. 1.307 m.	Y
	0.261 m.	10.681 m.			
537	1.331 m.	10.942 m.	10.942 m.	ca. 0.360 m.	Z

Conclusions

On the basis of the foregoing restoration, we may conclude that the twenty-three sculptured frieze slabs, though carved in advance at some workshop distant from the temple, were adjusted to fit the cella with total dimensions of (2 x 4.420/4.421) + (2 x 10.942) = 30.725 m. at the top, or (2 x 4.408/4.409) + (2 x 10.930) = 30.677 m. at the bottom, exactly in accordance with the sculptor's original intention, apart from curtailment of the slab lengths at fifteen joints[112] and the transposition of two slabs[113] in order to fit the architectural requirements.

The twelve slabs of the Amazonomachy begin with the second slab on the east flank (no. 532), where a wide space of 0.14 m. was left as a separation between the two subjects. These twelve Amazon slabs include seven on the east, three on the south, and two on the west, culminating at the

[112] These are at the first (no. 524), fifth (no. 535), and seventh (no. 533) joints on the east flank; the first (no. 531), second (no. 529), third (nos. 529, 522), fourth (no. 526), fifth (no. 526), sixth (no. 521), and seventh (no. 521) joints on the west flank; and the first (no. 520), second (no. 528), and third (nos. 528, 523) joints in the north frieze—in short, at three of the seven joints on the east flank and at all of the joints on the west flank and the north end—as well as at the southwest corner (left end of no. 531) and the northwest corner (left end of no. 520). The amounts and reasons for the curtailments are discussed below.

[113] These are slabs nos. 521 + 530 at the right end of the west frieze, originally intended to be in the order nos. 530 + 521, as discussed below.

south (no. 541) in the chiastic group of Theseus and Hippolyte carrying up the line of the central Corinthian column, with a small *puntello* on the ground surface marking the central axis. The narration terminates with three exhausted figures going out of battle (no. 539), a resting Amazon and a wounded Athenian being carried from the field by a colleague, these vertically posed figures serving as a terminal point of punctuation.

The eleven slabs of the Centauromachy begin with the third slab on the west flank (no. 529) and include six on the west, four on the north, and one on the east. The narration reaches its culmination on the north, where a prominent figure probably to be identified as Peirithous stands at the exact center amid the melée (no. 528), while at the extreme right Apollo and Artemis apparently drive their stag-drawn chariot out of the picture in a somewhat startling manner (no. 523). This composition, surprising in itself, finds its explanation in the following slab on the east flank (no. 524), which provides for the far-shooting Apollo, aiming across the corner of the room at forty-five degrees, a target in the form of the Centaur Eurytion who, assailed also by Theseus from behind, violates the sanctuary of the xoanon of Artemis at which the denuded bride Hippodamia has sought shelter. These two slabs are separated by the corner to suggest intervening distance, thus explaining why Artemis and Apollo seem to be riding out of the picture composed by the north frieze.[114] The Centauromachy concludes just beyond the left corner of the east flank with the tree which forms a suitable terminal punctuation at the right edge of no. 524.

Applying consecutive Arabic numbers to the ninety-three human and semi-human figures in the manner adopted for the Panathenaic frieze of the Parthenon, from left to right, but in this case beginning with the first slab of the Amazonomachy rather than at a corner, we may test the sculptural consequences of the order obtained by technical methods:

The Amazonomachy

East,	no. 532	1	(a)	Fallen Amazon
		2		assailed by Athenian.
		3	(b)	Amazon passes behind
		4		fallen Amazon to assail
	no. 534	5		Athenian who seizes
		6		mounted Amazon.
		7	(c)	Amazon comes to defense
	no. 538	8		of fallen Amazon, who
				is overcome
		9		by bearded Athenian.
		10	(d)	Fallen Athenian
		11		assaulted by Amazon.
	no. 535	12	(e)	Athenian overcomes
		13		Amazon.
		14	(f)	Amazon contends
		15		with Athenian.
	no. 536	16	(g)	Amazon overcome
		17		by Athenian.
		18	(h)	Fallen Athenian
		19		assailed by Amazon
	no. 533	20		as an Athenian comes to
				his rescue.
		21	(i)	Amazon contends
		22		with Athenian.
		23	(j)	Collapsing Amazon.
	no. 537	24	(k)	Athenian assists another
		25		Athenian who overcomes
		26		a fallen Amazon
		27		defended by another Amazon.
South,	no. 540	28	(l)	Fallen Athenian
		29		defended by another Athenian
		30		as a third Athenian
		31		drives off Amazon.
	no. 541	32	(m)	Mounted Amazon
		33		assaults fallen Athenian.
		34	(n)	Queen Hippolyte
		35		in combat with Theseus.
		36	(o)	Mounted Amazon
		37		unhorsed by Athenian.
	no. 542	38	(p)	Amazon intercedes for
		39		fallen Athenian
		40		assailed by another Amazon.
		41	(q)	Fallen Amazon
		42		assisted by another Amazon.
West,	no. 531	43	(r)	Amazon in combat with
		44		Athenian wearing chlamys.
		45	(s)	Amazon assists
		46		fallen Amazon.
	no. 539	47	(t)	Athenian carries
		48		dead or wounded Athenian.

[114] The sequence nos. 523 + 524 was proposed by Murray and Smith, but with both slabs in the same plane so that the range of Apollo's arrow is absurdly short.

49 (u) Amazon rests from combat.
50 (v) Wounded Athenian assisted out of battle
51 by Athenian in chlamys.

The Centauromachy

no. 529 52 (a) Lapith overcomes
53 Centaur.
54 (b) Lapith smites back
55 of Centaur.
no. 522 56 (c) Centaur seizes
57 woman with babe.
58 (d) Centaur assails
59 fallen Lapith.
no. 526 60 (e) Centaur assails
61 Lapith.
62 (f) Lapith overcomes
63 fallen Centaur.
no. 525 64 (g) Lapith defends himself
65 against Centaur.
66 (h) Woman with babe retreats from
no. 521 67 Centaur in full gallop.
68 (i) Woman seized
69 by Centaur who also
70 assails falling Lapith.
no. 530 71 (j) Centaur buries
72 the immortal Caeneus
73 assisted by another Centaur
74 who is assaulted by a Lapith.
75 (k) Woman flees in terror.

North, no. 520 76 (l) Centaur carries off
77 woman.
78 (m) Lapith struggles
79 with Centaur.
no. 527 80 (n) Lapith defends himself with shield
81 over fallen Centaur
82 against rear hooves of Centaur
83 who bites but is stabbed by Lapith.
no. 528 84 (o) Lapith (Peirithous?) overcomes
85 Centaur, who is assailed
86 by another Lapith who in turn
87 is restrained by another Centaur.
no. 523 88 (p) Artemis drives stag-drawn chariot
89 containing Apollo, who shoots beyond

East, no. 524 90 a woman (bridesmaid?)
91 and another (Hippodamia) who has sought refuge at the xoanon of Artemis,
92 against a Centaur (Eurytion)
93 who is assailed by Theseus.

As thus arranged, the fifty-one figures of the Amazonomachy, twenty-seven Amazons and twenty-four Athenians—the defeated contestants in the majority—fall into twenty-two episodes (a-v), the number of figures in each episode varying from one (j, u) to four (b, k, l), but generally two (a, d-g, i, m-o, q-t, v) or three (b, c, h, p). The number of figures per slab is normally four, but only three on no. 534, five on nos. 542 and 539, and six on the exceptionally long no. 541. The episodes are normally self-contained within the slabs, but cross the slab joints in three cases (b, c, h).

The forty-two figures of the Centauromachy, eighteen Centaurs and fourteen Lapiths, besides seven Lapith women, Theseus, Apollo, and Artemis—the defeated contestants again in the majority—fall into sixteen episodes (a-p), the number of figures in each episode varying from one (k) to six (p), but generally two (a-d, f-h, l, m), three (i), or four (j, n, o). The number of figures per slab is normally four, but only two on no. 523, three on no. 525, and five on no. 530. The episodes are usually self-contained within the slabs, but cross the slab joints in two cases (h, p), the last of these covering two full slabs (nos. 523 + 524), the climax of the story.

The only point at which we discern unmistakable evidence of a change of plan is at the right end of the west flank, where the terminal slabs were actually set in the order nos. 525 + 521 + 530, though it was originally intended according to the architrave dowel holes that no. 530 should be the second from the end. One might inquire whether this was a simple interchange of nos. 521 and 530, or a more complicated rearrangement involving nos. 521, 525, and 530. The latter possibility is mentioned only

because no. 525, actually the third from the end, has been found to be the only slab other than no. 530 that could fit the clamp cutting on corner backer A; but when we reflect that the clamp cuttings were made after or during setting, when the scheme had been revised, rather than before like the dowel holes, it is apparent that such an argument for considering no. 525 as the originally proposed terminal slab would be purely specious. Furthermore, use of no. 525 as a terminal slab, at right angles to no. 520, would be just as unsatisfactory from the viewpoint of composition, with a lone female figure at the right in repetitious proximity to the female figure grasped by the Centaur at the left edge of no. 520, as in the actually executed composition of nos. 530 + 520. It is probable, therefore, that it was merely a question of interchange between nos. 521 and 530. For no. 521 would have formed an excellent terminal slab with the falling Lapith at the right edge, while the Centaur at the left dashes in full pursuit after the woman at the right edge of no. 530. The reason for the interchange is readily apparent: the Lapith's shield at the right edge of no. 521, reaching to the edge of the slab (at present even 0.007 m. beyond it), is in high relief (0.02/0.05 m.) and would have conflicted with the woman's knee likewise in high relief at the left edge of no. 520. Since no. 520 could not be shifted within the north frieze, the only solution was to interchange nos. 530 and 521 in the west frieze, despite the resulting poor composition at the northwest corner, trusting that this would not be noticed. This involves the assumption that the original arrangement of these episodes was slightly different: the woman (66) at the right edge of no. 525 would have been the isolated figure (instead of 75), and the woman (75) at the right edge of no. 530 is the one who originally fled from the Centaur (no. 67). In the original slab sequence nos. 525 + 530 + 521 the sequences of the figures and episodes would have been (g) 64-65, (h) 66, (i) 71-74, (j) 75, 67, and (k) 68-70.

It is of interest also to trace the process of erection, beginning with the frieze backers. Although dowels were not employed for the setting of these backers, we may obtain some indication of the order of their setting from the pry cuttings surviving on the architraves. As will be shown by the flanks, the north corner backers A and B, and the low backers on the north door lintel between them, were undoubtedly laid first, the four low backers apparently from west to east, judging from the pry cutting on the lintel ca. 0.14 m. east of the center,[115] so that the extant backer V would have been a first-laid block.

On the west flank, the surviving pry cuttings as located on the architraves may be laid out individually and cumulatively (as measured from the south architrave), also the locations of the backer joints; the cumulative distances to the backer joints are here reduced by 0.016 m. from the amounts previously given with reference to the length 10.942 m. at the top of the frieze (p. 438), for ease of comparison with the architrave length 10.91 m.

West (south to north)

Architraves			Backers		
		cumulative	cumulative		
E	0.32 m.	0.32 m.	0.364 m.	0.364 m.	C
	—	—	1.725 m.	1.361 m.	Y
D	0.61 m.	2.97 m.	3.043 m.	1.318 m.	G
	1.96 m.	4.32 m.	4.422 m.	1.379 m.	M
C	0.58 m.	5.63 m.	5.767 m.	1.345 m.	I
	1.86 m.	6.91 m.	7.076 m.	1.309 m.	L
B	0.57 m.	8.27 m.	ca. 8.407 m.	1.331 m.	H
	1.785 m.	9.485 m.	ca. 9.756 m.	1.349 m.	K
			10.91 m.	1.154 m.	B

It will be observed that in every case the pry cutting on the architrave is south of the backer joint, by amounts varying from 0.044 to 0.271 m. (averaging 0.133 m. for the seven actually measured), demonstrating that they were laid in sequence from north to south, the southwest corner backer last of

[115] See p. 430.

all. Again on the east flank we may lay out the surviving pry cuttings individually and cumulatively (as measured from the north architrave), as well as the locations of the backer joints, again reducing their cumulative distances (as previously given with reference to the frieze, p. 443) by 0.016 m.

no. 520	left,	dressing	0.005 m.
	right,	protrusion	0.055 m.
no. 528	left,	protrusion	0.05 m.
	right,	amputation	0.005 m.
no. 523	left,	protrusion	0.010 m.
			0.125 m.

East (north to south)

	Architrave	cumulative	Backers cumulative		
K	0.64 m.	1.17 m.	1.149 m.	1.149 m.	A
	2.03 m.	2.56 m.	ca. 2.495 m.	ca. 1.346 m.	Y
J	0.90 m.	4.08 m.	3.842 m.	ca. 1.347 m.	X
	2.08 m.	5.26 m.	5.210 m.	1.368 m.	N
I	—	—	6.550 m.	1.340 m.	E
	2.095 m.	7.945 m.	ca. 7.904 m.	ca. 1.354 m.	Y
H	—	—	9.259 m.	ca. 1.355 m.	F
	—	—	ca. 10.566 m.	ca. 1.307 m.	Y
			10.91 m.	ca. 0.344 m.	Z

Again in every case the pry cutting on the architrave is south of the backer joint, by amounts varying from 0.021 to 0.238 m. (averaging 0.083 m. for the five actually measured), again demonstrating that they were laid in sequence from north to south, evidently the southeast corner backer last of all. This is in agreement with backer N of the east flank, which has a shift cutting near the top of the left (north) joint of a form requiring the backer north of it to have been already in position (fig. 16c).[117]

After the erection of the rectangle formed by the backers, the thin frieze slabs were set within it, and evidently in the same general direction from north to south as shown by internal evidence. The north frieze, with its difficult problem of condensation in view of the excessive lengths of the slabs, was the first to be set in place, and thence the setting proceeded from north to south on both flanks, the last to be erected being the symmetrical composition on the south, for which there was plenty of space. This general conclusion is based on the locations of the exceptionally treated joints, of which two of the categories listed above are particularly closely interrelated, the protruding sculpture and the amputated sculpture both being consequences of reductions in the original lengths of the backgrounds.

In the north frieze these curtailments affected both the left corner and all three of the intermediate joints, that is, three of the four slabs, to an extent which may be approximately estimated as follows:

[117] *MMS* IV, fig. 19 ("L").

It is probable that the setting of the north frieze proceeded, contrary to the backers, from east to west, the Apollo slab no. 523 being set first and the short slab no. 520 last, mercilessly hacked at the left edge to fit within the west corner.

The consequences of the excessive length of the west frieze also were foreseen. Not only was no. 530 substituted at the right end for no. 521 (which more readily permitted curtailment at the right end), but also, proceeding from north to south, we find curtailments at the right and left edges of no. 521, at the right and left edges of no. 526, at the left edge of no. 522, at the right and left edges of no. 529, and at the right and left edges of no. 531, the last being a rough dressing of the face to permit it to be overlapped at right angles by the south frieze, to the extent of 0.040 m. (at the top, 0.046 m. at the bottom). Most of these involved removal merely of the background, permitting the sculpture to overlap; but at the right end of no. 531 the sculpture was itself amputated, while the overlap at its left end was apparently allowed to fall where it would. These curtailments affected both the left corner and every one of the seven intermediate joints. The four alternate slabs (nos. 521, 526, 529, and 531) show curtailment at both ends, only one of the other slabs (no. 522) at one end, to the following extent:

no. 521	right, protrusion	0.007 m.
	left, amputation	0.01 m.
no. 526	right, protrusion	0.002 m.
	left, protrusion and amputation	0.014 m.

no. 522 left, protrusion	0.015 m.
no. 529 right, protrusion	0.012 m.
left, protrusion and dressing	0.01 m.
no. 531 right, amputation	0.005 m.
left, face dressing	0.040/0.046 m.
	0.115/0.121 m.

In the east frieze the only adjustments were made on four slabs, and significantly primarily at their right-hand edges, three of them in the last-laid south half of the frieze. On no. 535, where the curtailment might preferably have been in the empty space at the left end, the fact that here only the anathyrosis margin was removed is evidence that the amount of reduction was not foreseen; that further reduction was done at the right end in more drastic fashion is further corroboration of the direction of work from north to south. The southernmost extremity of no. 537 was allowed to fall where it would, without actual curtailment because of the compensating rebate cut on no. 540 at right angles:

no. 524 right, dressing	0.005 m.
no. 535 right, amputation	0.005 m.
no. 533 right, amputation	0.005 m.
no. 537 right, insertion in rebate	0.009/0.015 m.
	0.024/0.030 m.

For the symmetrical composition of the south frieze there was plenty of space, because of the blank surfaces left at the edges of both of the corner slabs (0.079 m. at the left of no. 540, 0.05 and 0.07 m. at the left and right of no. 542). The right end of no. 542 merely abutted against the dressed face of no. 531, while the left edge of no. 540 was specially cut with a rebate to receive the excessive length of no. 537:

no. 540 left, rebate	0.073/0.079 m.

Summarizing the total amounts of these estimated reductions, we obtain what seems to be a significant result:

north	0.125 m.
west	0.115/0.121 m.
east	0.024/0.030 m.
south	0.073/0.079 m.
	0.337/0.355 m.

The total amount of reduction in the exposed periphery of the frieze, 0.337/0.355 m., as thus estimated, so closely coincides with the maximum allowance for overlapping at the four corners of the frieze, 4 x 0.085 = 0.34 m. as indicated by the recession of the frieze backers behind the architrave face in the lintel of the north doorway, that we are fully justified in the following conclusion: "the sculptors working at a distance from the temple mistakenly carved the relief to the very ends of most of the corner slabs, without reserving blank margins for overlapping; and the error had to be rectified at the temple by reducing the lengths of [many of] the intermediate slabs."[118]

Lastly, we come to the fastening of the frieze slabs, both with the double-T clamps to the backers, which we have sufficiently considered, and with dowels to the architrave, a matter hitherto left as an unsolved problem, except that we have concluded that the dowel holes on the architrave ought to have some connection with the rectangular dowel holes on the faces of the frieze slabs, rather than with the circular holes bored within their thickness. To facilitate comparison between the dowel holes on the frieze slabs and those on the top of the architraves, all measurements are taken between the corners at the bottom of the frieze, so that on the architrave it is necessary to add 0.01 m. at either end to the cumulative figures previously given for each flank, in order to make the total 10.930 m., and also to add 0.004 m. at either side in order to make the total 4.408/4.409 m. for each end frieze.[119]

Comparison of the results from the west flank yields the following conclusions:

[118] *MMS* IV, 224. [119] See pp. 413-14.

West (south to north)

	Frieze dowels	Cumulative Slabs	Cumulative Dowels	Cumulative Architrave dowels etc.
531	0.220 m.		* 0.220 m.	dowel *a* 0.22/0.27 m.
	0.867 m.		1.087 m.	break 0.86/1.04 m.
	0.253 m.	1.340 m.		dowel *b* 1.335/1.385 m.
539	0.249 m.		* 1.589 m.	break 1.58/1.96 m.
	0.857 m.		* 2.446 m.	break 2.37/2.57 m.
				dowel *c* 2.67/2.715 m.
	0.346 m.	2.792 m.		
529	0.296 m.		3.088 m.	
				break 3.345/3.475 m.
				pour *d* 3.565 m.
	0.955 m.		* 4.043 m.	break 3.625/4.075 m.
	0.075 m.	4.118 m.		dowel *e* 4.11/4.16 m.
522	0.138 m.		4.256 m.	
				patch 5.06/5.35 m.
	0.958 m.		* 5.514 m.	patch 5.38/5.70 m.
	0.164 m.	5.378 m.		
526	0.314 m.		* 5.692 m.	patch 5.38/5.70 m.
	0.595 m.		6.287 m.	
				dowel *f* 6.465/6.515 m. (pour R.)
	0.374 m.	6.661 m.		dowel *g* 6.69/6.74 m. (pour L.)
525	0.186 m.		6.847 m.	
	0.840 m.		* 7.687 m.	gap 6.94/7.71 m.
				break 7.71/7.82 m.
	0.321 m.	8.008 m.		dowel *h* 8.04/8.085 m. (pour L.)
521	0.205 m.		8.213 m.	
	0.753 m.		* 8.966 m.	break 8.93/9.25 m.
	0.327 m.	9.293 m.		
530	0.20 + m.		* 9.493 + m.	dowel *i* 9.445/9.50 m.
				dowel *j* 9.735/9.79 m.
	1.375 — m.		* 10.866 m.	dowel *k* 10.805/10.865 m.
	0.064 m.	10.930 m.		

From this comparison of the upper parts of fifteen preserved dowel holes out of sixteen in the frieze slabs, and of the lower parts of the remnants of sixteen (actually ten preserved dowel holes and one isolated pour channel, *a-k*) surviving on the architrave, we see that only three architrave dowels (*a, i, k*) could actually have corresponded with those on the frieze, and that seven (*b-c, e-h, j*) and the isolated pour channel (*d*) could not. Curiously, two of the architrave dowels (*b, e*) exactly and two others (*g, h*) almost coincide with frieze slab joints and so could never have been utilized, and the same failure to utilize the architrave dowel is apparent with three others (*c, f, j*) as well as the isolated pour channel (*d*) which correspond to nothing on the frieze. Curiously, again, all four pour channels (*d, f, g, h*) are among the items which could never have been utilized. Conversely, apart from the three corresponding frieze dowels (nos. 531 left, 530 left and right), we see that two (nos. 522 right, 526 left) could have fitted holes on a missing inserted patch on the architrave, and that five others (nos. 539 left and right, 529 right, 525 right, 521 right) could have fitted missing holes in breaks or a gap on the architrave. But six of the frieze dowels (nos. 531 right, 529 left, 522 left, 526 right, 525 left, 521 left) could not have fitted anything on the architrave. In short, the two long slabs nos. 539 and the first-laid 530 could have been doweled near both ends, two of the shorter slabs (nos. 531, 526) near the left ends

only, and four others (nos. 529, 522, 525, 521) near the right ends only, as marked by asterisks; thus all eight slabs could have been and probably were doweled, the six shorter slabs only near one or the other end. This is in conformity with our preliminary observations that both architrave dowels in any pair could rarely have been used simultaneously, and also with the fact that four slabs (which happen to belong to end friezes) never had dowel holes near one of the two ends.

We now similarly examine the conditions for the east frieze:

East (north to south)

	Frieze dowels	Cumulative Slabs	Cumulative Dowels	Cumulative Architrave dowels etc.
524	0.17 — m.		* 0.17 — m.	gap 0.00/0.54 m.
				pour *a* 0.91 m.
				dowel *b* 1.183/1.203 m.
	1.06 + m.		* 1.231 m.	dowel *c* 1.215/1.26 m.
	0.136 m.	1.367 m.		
532	0.31 — m.		(*) 1.68 — m.	dowel *d* 1.445/1.505 m.
				break 1.93/2.50 m.
	0.90 + m.		* 2.580 m.	dowel *e* 2.545/2.605 m.
	0.178 m.	2.758 m.		
534				dowel *f* 2.825/2.885 m.
	0.218 m.		2.976 m.	
				pour *g* 3.26 m.
	0.891 m.		* 3.867 m.	patch 3.595/4.045 m.
	0.229 m.	4.096 m.		
538				dowel *h* 4.23/4.29 m.
				break 4.425/4.475 m.
	0.464 m.		4.560 m.	
	0.74/0.81 m.		* 5.30/5.37 m.	pour *i* 5.34 m.
				dowel *i* 5.36/5.415 m.
	0.09/0.16 m.	5.461 m.		
535				dowel *j* 5.62/5.675 m.
	0.294 m.		5.755 m.	
	0.849 m.		* 6.604 m.	gap 5.86/7.76 m.
	0.248 m.	6.852 m.		
536	0.34/0.54 m.		(*) 7.19/7.39 m.	patch ? /7.84 m.
			* 7.905 + m.	dowel *k* 7.96/8.005 m.
	0.34 — m.	8.245 m.		
533	0.211 m.		(*) 8.456 m.	break 8.34/8.56 m.
	0.723 m.		9.179 m.	gap 8.56/10.93 m.
	0.426 m.	9.605 m.		
537	0.206 m.		9.811 m.	
	0.924 m.		10.735 m.	
	0.195 m.	10.930 m.		

From this comparison of the upper parts of eleven preserved dowel holes out of sixteen in the frieze slabs, and of the lower parts of the remnants of sixteen (actually ten preserved dowel holes, one of them extra, and two isolated pour channels, *a-l*) surviving on the achitrave, we see that only six architrave dowels (*c, d* ?, *e, i, k*, and perhaps that on H?) could have corresponded with those on the frieze, and that four holes (*b, f, h, j*) and two isolated pour channels (*a, g*) could not. Conversely, apart from the six corresponding frieze dowels (nos. 524 right, perhaps 532 left, 532 right, 538

right, 536 right, and perhaps that above H?), we see that two (nos. 534 right, 536 right) could have fitted holes on two inserted patches on the architrave, and that six others (nos. 524 left, 535 right, 533 left and right, and 537 left and right) could have fitted missing holes in a break and in three gaps on the architrave. But three of the frieze dowels (nos. 534 left, 538 left, and 535 left) could not have fitted anything on the architrave. In short, five of the slabs (nos. 524, 532, 536, 533, 539) could have been doweled near both ends, and three others (nos. 534, 538, 535) near right ends only, as marked by asterisks. But there is no slab for which the evidence explicitly demands dowels at both ends. In the light of the usage on the west flank, it is perhaps better to assume that only the first-laid left end slab no. 524 was doweled at both ends, and that five of the others (necessarily nos. 534, 538, and 535, probably also nos. 532 and 536) were doweled only near the right ends, the same perhaps being true also of the two others (nos. 533 and 537). In other words, the first-laid northernmost slab would have been doweled at both ends, all the others only near the south ends which momentarily terminated the frieze as each successive slab was laid.

In the south frieze, where the upper halves of five dowel holes once appeared in the frieze slabs (never cut at the left end of no. 540), the lower halves of only two dowel holes survive on the architrave, permitting the following comparison:

South (east to west)

	Frieze dowels	Cumulative Slabs	Cumulative Dowels	Cumulative Architrave dowels etc.	
540	none			break	0.00/0.505 m.
	—		* 0.942 m.	gap	0.505/2.175 m.
	0.417 m.	1.359 m.			
541	0.30/0.39 m.		* 1.66/1.75 m.		"
	1.24/1.33 m.		* 2.988 m.	dowel *a*	2.965/3.01 m.
	0.15 m.	3.138 m.			
542	0.110 m.		* 3.248 m.	dowel *b*	3.215/3.26 m.
	0.978 m.		(*) 4.226 m.	break	3.45/4.41 m.
	0.183 m.	4.409 m.			

It is evident from the spacing 0.25 m. on centers between the two surviving dowel holes on architrave F that these must have coincided with the two dowel holes 0.26 m. on centers near the right end of no. 541 and the left end of no. 542. While, in addition to these two, the three other dowel holes on the frieze slabs might have fitted missing holes in one gap and one break, as marked by asterisks, it is probable that only two of these actually coincided, the very long slab no. 541 being doweled near both ends, and nos. 540 and 542 only near their inner ends.

In the north frieze, where the upper halves of four dowel holes once appeared in the frieze slabs, one on each (only one near the middle of no. 520, and never cut near the right end of no. 527 or the left ends of nos. 528 and 523), the comparison would be as follows:

North (west to east)

	Frieze dowels	Cumulative Slabs	Cumulative Dowels	Cumulative Architrave dowels etc.	
520	0.411 m.		* 0.411 m.	gap	ca. 0.63 m.
	0.343 m.	0.754 m.			
527	0.170 m.		* 0.924 m.	dowel *a*	ca. 0.90/0.95 m.
				dowel *b*	ca. 1.215/1.265 m.
	1.079 m.	2.003 m.			
528				dowel *c*	ca. 2.67/2.71 m.
	0.89/0.97 m.		* 2.89/2.97 m.	dowel *d*	ca. 2.86/2.90 m.
	0.28/0.36 m.	3.252 m.			
523	0.937 m.		* 4.189 m.	gap	ca. 2.94/4.41 m.
	0.219 m.	4.408 m.			

Since each slab must have been fastened, it is obvious that all four of the dowel holes cut on the frieze slabs must have coincided with holes on the architrave-lintel M, where two pairs survive but so close together that one hole in each pair must have remained unused. We have noted that the T clamp on the top of the lintel piece M2 should be located ca. 2.85 m. from the left corner of the frieze; since dowel *d* is 0.065/0.105 m. east of the clamp, and so theoretically ca. 2.915/2.955 m. from the left corner, this would closely approximate the dowel hole cut on no. 528, ca. 2.89/2.97 m. from the corner. In other words, dowel *c* would have been that left unused. Again, of the pair of dowel holes on piece M1, dowel *a* is that which would most satisfactorily coincide with the dowel hole near the left end of no. 527, which was 0.924 m. from the left corner, and so may be located ca. 0.90/0.95 m. from the left corner of the frieze, implying that dowel *b* was the one not utilized. These coincidences are marked by asterisks in the foregoing table.

This survey of the evidence, which includes both the unpublished material serving as the basis of my preliminary study of 1927-32 and the additional facts discovered in 1937-39, is here presented in what I conceive to be the most compact form, proceeding forward constructively from the known facts instead of following the previously adopted exhaustive process of elimination backward from the maximum number of possibilities. Both processes, however, lead to the identical solution attained by 1939. By reconciling the lengths of the frieze slabs to the total dimensions of the frieze rectangle, taking account of the details of the protruding or amputated sculpture at the joints, determining the sequences of the frieze backers, fitting the clamps joining the frieze backers to the sculptured slabs (of the original forty-six T clamps, nineteen inner ends preserved on the backers and thirty-six outer ends on the frieze slabs, thirteen corresponding in both, while five inner ends on the backers correspond to breaks on the frieze slabs and six outer ends on the frieze slabs correspond to breaks or patches on the backers, a total of twenty-four exact or plausible correspondences), and by studying the dowels joining the frieze slabs to the architraves (of the forty-one dowel holes cut on the frieze only twenty-seven having been actually utilized, eight corresponding in both, thirteen frieze dowels fitting gaps on the architrave, four architrave dowels fitting breaks in the frieze, and two with corresponding breaks in both courses), we have attained a sequence of the frieze slabs which I believe to be definitive and the only one conforming to all the structural evidence. As for our final objective, that of sculptural sense, this sequence would seem to be in complete accord with the artist's original intention, with the single exception of the interchange of slabs nos. 530 and 521 to fit the structure. Thus I venture to hope that another of the cornerstones of the development of Greek sculpture has now been freed from the uncertainties which have beset it ever since the excavation nearly a century and a half ago, and that it may henceforth be studied objectively purely from the aspects of sculptural style and composition.

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BOOK REVIEWS

DISCOVERING BURIED WORLDS, by *André Parrot*. Pp. 128, pls. 30, maps 5. Philosophical Library, New York, 1955.

This is the English translation of M. Parrot's popular *Découverte des Mondes Ensevelis*, Neuchâtel 1952 (cf. R. Dussaud, *Syria* 30 [1953] 144). Written in fairly emotional and mystic prose, it is intended as an introduction to biblical archaeology, selecting details of Mesopotamian and Syrian culture which M. Parrot finds most significant to "scholar, artist, and believer." (12)

In I, "The Buried City Re-emerges," M. Parrot draws on his long personal experience at Mari to assess the effect of topography and climate on ancient civilization and modern excavation; he tries to bring Mari to life as a typical site. II, "The Saga of the Archaeologists" surveys the history of excavation, necessarily in haste, from Botta at Khorsabad to Schaeffer at Ras-Shamra. A slightly chauvinistic tone pervades. III, "Five Thousand Years of Civilization," describes the cultural contributions of "the grave Sumerian and smiling Semite," emphasizing the former, and proceeding by rapid, skilful highlighting from Hassuna to Nabataea. The majority of plates refer to this section; sculpture predominates, from the portrait of Ishtupilum to the Heliopolitan Jupiter. The plates are clear and well-chosen, drawing heavily, understandably, on Louvre material. A chronological table and more precise references to objects which are discussed but not illustrated would make this section more manageable to the layman; as it is, the extreme telescoping of material induces some confusion. IV, "Biblical Past and Oriental Background," summarizes briefly the contributions of archaeology to biblical interpretation (Egypt is ignored) and the conflict between History and Revealed Word from Delitzch's *Babel und Bibel* (1902) to the Dead Sea Scrolls. A page on Sic Transit Gloria Mundi and a select bibliography complete the volume.

M. Parrot is apparently writing for the lay adult; his experience and style should serve to rouse some interest in near eastern art. However, the English translation is sometimes awkward and misleading (p. 99: "The bronze Sursock in the Louvre gives us a very clear idea of the idol . . ."), and the presentation as a whole moves too fast to produce a secure and informative picture.

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THE LINEAR "B" TEXTS FROM KNOSSOS, transliterated and edited by *R. Browning*. Bulletin of the Institute of Classical Studies of the University of London, Supplementary Papers I. Pp. iii + 107, sign-list on separate card. London, 1955.

This transliteration of the Knossos tablets, based on *Scripta Minoa* II, is now completely superseded by *The Knossos Tablets*, by E. Bennett, J. Chadwick, and M. Ventris, *BICS*, Supplementary Papers II, London 1956. A list of errata in the Browning edition was compiled by L. R. Palmer (*Gnomon* 27 [1955] 595-603); the new edition states (i): "of some 2080 texts published by Browning 1100 require modification in whole or in part, and some 1524 new pieces may now be added." The imperfections of *SM* II as a working tool are largely responsible for the failure of this volume, and one looks forward to a new presentation of the Knossos material in the format of *The Pylos Tablets*, 1955, by Bennett, to supersede the Evans-Myres production.

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TROY. VOLUME III. THE SIXTH SETTLEMENT, by *Carl W. Blegen, John L. Caskey*, and *Marion Rawson*. Part 1, pp. xxix + 412; part II, pp. xxxv + figs. 512. Princeton University Press, 1953. $36.00.

The present volume of the University of Cincinnati's excavations at Troy from 1932 to 1938 continues the elaborate plan of the two preceding volumes (*Troy I, the First and Second Settlements*, Princeton 1950, and *Troy II, the Third, Fourth and Fifth Settlements*, Princeton 1951), giving a well-nigh complete description and photographic record of the remains of the Sixth Settlement which flourished from the beginning of the Middle Bronze Age until it was destroyed by a catastrophic earthquake soon after 1300 B.C. Covering a span of more than five hundred years and paralleling the entire Middle and Late Helladic periods on the mainland of Greece down to the transition from LH IIIA to IIIB pottery, this settlement unquestionably merits an entire volume on the scale that was originally planned. Furthermore Troy VI was the most impressive of the settlements with its great fortification walls and towers of ashlar masonry with pronounced batter and set-backs, its broad ramps, and simple yet massive houses such as the Pillar House. This was the citadel that Dörpfeld considered Homer's Troy, and, although the Homeric epithets "wide-wayed" and "mighty-fortressed" might more aptly describe this settlement than its meaner successor, the University of Cincinnati excavations have forever ruled out the possibility of Troy VI being the archaeological Troy of the poems. The evidence is two-fold, both causative and temporal. No archaeologist can question the validity of Blegen's conclusion that Troy VI was destroyed by a mighty earthquake rather than by human agency (the great cracks and fissures of the walls and towers, e.g., fig. 31, and the tumbled stones and debris, e.g., figs. 16 and 59, are surely the result of seismic upheaval), and

the date of this disturbance is about a hundred years before the traditional date of the fall of Troy. This then is the main historical result embodied in the present volume, but its implications for ancient history and Homeric scholarship are barely mentioned, perhaps because preliminary reports some years ago had already made this an accomplished fact. It remains for *Troy IV* to offer the Seventh Settlement in its first phase as the more likely archaeological candidate for Homer's Troy, yet even here there are difficulties in equating the archaeological record with the legendary. However, this whole problem, interesting as it is, is outside the scope of the present publication as defined in the foreword (p. vii), where the descriptive and objective record of the excavations is to be divorced from any general conclusions. It is to be hoped that "the briefer and more general survey" there alluded to will be forthcoming, for the present publication is so detailed and specialized that it can scarcely be used by the more general scholar who would profit by a concise and up-to-date treatment of the Trojan problem.

How well then does this publication answer the needs of the archaeological specialist? It will undoubtedly be a working manual on all Western Anatolian and Aegean excavations coeval with Troy VI and for all scholars dealing with such problems as the origin of Minyan Ware, the distribution of Late Helladic pottery, etc. This will be due, however, to the accuracy and completeness of the record rather than by virtue of any illuminating chapters on such topics. It would be hard to find an equal in thoroughness of excavation reporting, with so many illustrations, such full descriptive catalogues, such detailed explanations of excavation procedure along with cross-sections of stratifications. In short, it is the coordinating and making available to the scholar of the excavation notebooks and inventories of a very important and carefully conducted excavation. Nonetheless, this does not make for interesting reading, and one cannot help but feel that *Troy III* is a work to be consulted, largely through its illustrations and indices, rather than one to be perused. With this aim in mind, some subordination would, however, have been helpful, for example the use of numerical or alphabetical divisions within chapters and the use of bold-face for the most pertinent references in the index, particularly to the inventory descriptions of given objects. And even as a reference work, it would have seemed desirable to have expanded the Introduction (pp. 3-80) at the expense of shortening the inventories. In the Introduction there are less than twenty pages devoted to general remarks, such as the characteristics and subdivisions of the period, its external relations and chronology; the bulk of the chapter deals with the classification of miscellaneous objects and of pottery according to wares, shapes and decorative motives, and is thus in the nature of descriptive catalogues. This Introduction is followed by a chapter on the Fortification Walls (pp. 81-113) described according to gateways, towers, and sections of excavation, concluded by a chronological summary. The bulk of the book is devoted to three large chapters on the main subdivisions of the period: Early VI (pp. 115-175), Middle VI (pp. 177-214), and Late VI (pp. 215-396). Here the material is also presented according to the separate areas of excavation (designated either by the surveyor's square or by some architectural monument), and one has a description of the excavation and architectural remains of each area, followed in turn by a complete descriptive inventory of the material found there. Since some of the most detailed observations and practically all the references to comparative material are to be found in these inventories, they are not pages to be taken lightly, even if the going is somewhat hard. This part of the book is followed by a very full index (22 pages of triple columns) to be supplemented by the plate volume's "index of references in Part 1 to illustrations."

It comes as somewhat of a disappointment to learn that Troy VI provides of itself no evidence for an absolute chronology, since there are no imported Egyptian objects, and what is more surprising not a single object of Hittite manufacture. This does not mean that absolute dates for the various strata cannot be ascertained, but they must be derived from the Aegean sequence—in the earlier strata by a process of correlating parallel phenomena in the two regions and in the upper strata by the copious imports of Mycenaean pottery. Since Troy is such a highly stratified site, it in turn can even contribute to the relative chronology of the Aegean. The excavators have divided the rich layers of Troy VI into eight strata (labeled a to h), somewhat arbitrarily, since not all are represented in all parts of the excavation. The first three (a-c) comprise the subdivision Early VI and cover the Middle Bronze Age, whereas d-e (Middle VI) and f-h (Late VI) cover the Late Bronze Age down to the time of the destructive earthquake soon after 1300 B.C.

Early VI is marked by the appearance of an intrusive culture similar in many respects to that which ushered in the Middle Helladic Age of mainland Greece, a culture characterized by the appearance of Gray Minyan pottery, the introduction of the horse and of a new architectural style, marked at Troy by massive fortification walls with characteristic offsets. Since it is generally agreed that this invasion brought the ancestors of the Greeks into Greece, it may be supposed that the Trojans of Troy VI were racially akin to the Greeks. There is a surprisingly close correspondence between the Gray Minyan shapes at Troy and at the MH sites in Greece, with perhaps a fuller inventory at Troy, including such local favorites as the pedestalled cup with high-swung handles, one set vertically, one horizontally (A 100), or with horned or animal-headed handles. Assuming that it was the technique of the reducing kiln that was introduced by the invaders, the parallel development of shapes in the two areas calls for some common metallic prototypes, as the shapes themselves attest. The only evidence for a date in Early VI is a sherd in the Kamares tradition (fig. 360, no. 11) from VIb, which may be

a Minoan import and which would point to a date before MM III (i.e. before ca. 1700 B.C.). In order to spread the material from Early VI less thin, Blegen now suggests lowering the date for the beginning of Troy VI from 1900 B.C., as given in the previous volumes of the Troy report, to ca. 1800 B.C. He admits, however, that it might equally well be either 1900 or 1700, and that it can be established more certainly only by new evidence from the mainland. In this reviewer's opinion, new evidence from Mycenae—the extramural Grave Circle excavated by Papadimitriou from 1951-1954 with Shaft Graves at least a generation earlier than the oldest of Schliemann's Shaft Graves—should warn against lowering the date of the beginning of the Middle Helladic period too far. Although the Gray Minyan tradition was more readily modified in Greece, owing to contact with Minoan Crete, than at Troy, where it persists right down to the end of the Sixth Settlement and is even used for such borrowed and un-Minyan shapes as the stirrup vase and the pithoid jar, a certain interval must be allowed between the arrival of the Middle Helladic peoples and the new Shaft Graves of the seventeenth century with their riches and outside contacts. 1700 B.C. would certainly seem too late for the beginning of MH in Greece, and 1900 preferable to 1800 B.C.

The dates for Middle VI and Late VI are well attested by imported Mycenaean pottery, which appeared in a small quantity in strata d and e, and in a large quantity (some 31 inventoried pots and about a thousand sherds from some seven or eight hundred vases) in the upper three strata. A careful study of this Mycenaean pottery is therefore of the utmost importance not only for the chronology of Troy but for its cultural relations with Greece and the Mycenaean centers in the Levant. Although exhaustively studied in this report, the Mycenaean pottery is not presented in a unified account, since a full study of the individual vases is reserved for the inventories under given areas of excavation and even the illustrations are not all on consecutive plates. The use of the index is therefore of prime importance, but this is so full as to be cumbersome (some five columns of references under Mycenaean pottery). The following account represents this reviewer's critical summary of the Mycenaean pottery from Troy VI.

The main caches of Mycenaean pottery come from the houses in the southeast part of the citadel and various adjacent deposits: the Pillar House (pp. 241-243); Area between House VIG and the Fortification Wall (pp. 277-282); House VIF (pp. 301-307; 310-312); Area between House VIE and the Fortification Wall (pp. 338-343). These all belong to Late VI, ranging from the early group from House VIF, which is mostly LH II in style and in context transitional from Middle to Late VI, to the later Earthquake Deposits which mark the end of Troy VI. This latter group is represented in the Pillar House, the Area between House VIE and the Fortification Wall, the Cremation Cemetery (pp. 386-390) and the Area outside the East Fortification Wall (pp. 357-361). In addition there are the earlier and more isolated pieces from Middle VI found in various areas (pp. 188, 193, 194, 209-210, 211).

This group of Mycenaean pottery from Middle VI contexts is important in establishing the dates of strata d and e as belonging to the sixteenth and fifteenth centuries respectively, with LH I pottery first appearing in the former, LH II in the latter. Certain LH I-II sherds found in association with the footing trenches of the Late VI fortification walls are important in giving a *post quem* date of ca. 1400 B.C. to certain sections (e.g., fig. 383, nos. 35-37 from the Northwest section and fig. 419, nos. 23-24 from the Eastern sections 2 and 3). The material from Troy also adds extensively to the number of early (i.e. pre-LH III) Mycenaean contacts with the Levant and strengthens the argument of Wace and Blegen (*Klio* 32 [1939-40] 131-147) and Helene Kantor (*AJA* 51 [1947] 33-55) that in the century before 1400 B.C. overseas trade was no longer in the hands of a Minoan thalassocracy. The fragmentary teacups with tangent spirals (fig. 383, nos. 1 and 35) or with stippling (fig. 383, nos. 32-33), the deep kylikes (figs. 383, nos. 3-4; 403, no. 3), the squat one-handled jug with ivy leaf (fig. 383, no. 30; cf. fig. 320, 35.624) are all specifically mainland types, and most of them find more or less exact counterparts at sites in the Argolid. No specifically Cretan pottery occurs at Troy with the possible exception of the sherd in Kamares tradition mentioned above and the later stirrup-vases from House VIF (fig. 330). With the decipherment of the Linear B archives at Knossos as the same Greek language which was still in use at Mycenae and Pylos two centuries later, mainland supremacy over Crete before 1400 B.C. seems assured, and it is small wonder that these earlier imports to Troy have a mainland character.

In the three strata of Late VI (i.e. after 1425 B.C.) Mycenaean imports increase tremendously, as one would expect in the period of large-scale Mycenaean expansion to the Levant. At Troy, however, there is a greater quantity of pre-Tell el-Amarna material (i.e. before 1375-1350 B.C.) than is characteristic of the Levantine markets of Cyprus, Syria and Palestine. Some of this is clearly of the LH II mainland style with close parallels in the Palace style (figs. 383, no. 28; 323, 37.954; 324, 36.1061) or Ephyraean ware (fig. 383, no. 5) of the Argolid. But in addition other centers of manufacture seem represented: a bridge-spouted jug of possible Cycladic origin (fig. 320, 37.958), a deep kylix with plain dark glaze perhaps from Attica (fig. 315, 35.629), the five tall stirrup-vases in "oatmeal" fabric with Cretan affinities (fig. 330), and most especially the seven or eight jars decorated in the Palace style from House VIF (figs. 323 and 409, 35.1062), which represent a distinctive fabric undoubtedly manufactured in one locality. The excavators would assign them to "a peripheral Mycenaean center" and would date them within "a generation or two around 1400 B.C." (p. 302) Could they perhaps be an offshoot from the earlier and less standardized Palace style of the pithoid jars of Shaft Grave I

(Karo, *SG*, pl. CLXVII), where the large double axes and "tennis racket" leaves anticipate the rather bizarre and tasteless use of zig-zags and the "tennis racket" tree on the Trojan examples? If they are as late as the later fifteenth century one must postulate the survival of such tendencies in some out-of-the-way spot where there was less Minoan influence than in the developed Palace style.

The greatest amount of Mycenaean ware from the upper three strata of Troy VI is of Furumark's Myc. IIIA:2 (1400-1300 B.C.), with a few pieces that show the transition to the IIIB style of the thirteenth century, such as the fragments of panelled bowls (figs. 418, no. 1 and 419, no. 4) and the sherds of kylikes with vertical murices (figs. 412, no. 4; 415, no. 8; 420, nos. 2-3). These latter are found only in stratum h, and particularly in the Earthquake Deposit or in the Cremation Cemetery, and they therefore give the date of the final destruction of Troy VI within a few years of 1300 B.C., i.e. at a time when Myc. IIIA was giving place to IIIB. In view of the scarcity of such pieces and the still rather incipient IIIB style there represented, the year 1275 B.C. as suggested in the chronology (p. 19) is perhaps too late. When the Mycenaean material from Troy VIIa has been published, one will be better able to judge whether the earthquake should be dated "ca. 1300 B.C." rather than put definitely in the thirteenth century.

Most of the fourteenth-century Mycenaean pottery from Troy VI is of standard fabric and of the koine style known from the Greek mainland and Levantine sites from Egypt to Cyprus and Syria, but there are also two other wares which seem readily distinguishable from standard Mycenaean, if not always from each other, even in the photographs. One is designated by the excavators "provincial Mycenaean" and attributed to "some eastern (?) Mediterranean provincial center" (p. 38); the other is a local Trojan imitation of Mycenaean, and is sometimes undecorated, in which case it is the same as Tan Ware (i.e. Yellow Minyan). These two derivative Mycenaean wares are found mainly in the later contexts of Troy VI and would indicate that such local or provincial fabrics had sprung up only after there had been a long tradition of imported Mycenaean pottery. Undecorated local imitations in Tan Ware seem, however, to have begun somewhat earlier, perhaps owing in part to their own natural evolution from Gray Minyan antecedents, a process which was going on independently in Greece and at Troy. (On such a problem the exhaustive discussion of shapes and the wares and contexts in which they are found [pp. 36-76] is particularly useful.)

Among the mainland and koine fragments from Troy a few sherds bear witness to the fact that the pictorial style was one ingredient of this ware. Three fragments (fig. 412, nos. 6, 6a and 16) from one or two amphoroid kraters with chariot scenes show the standardized fourteenth-century rendering of this popular subject. They do not, however, represent a very late or decadent stage, and should be dated stylistically to the Amarna period (1375-1350 B.C.). Their context, in the Earthquake Stratum near House E, would suggest that they were among the earlier pieces of this deposit, and the vase an heirloom at the time of the earthquake. Another amphoroid krater is represented in two fragments (fig. 407, nos. 12-13), the pictorial nature of which seems not to have been recognized by the excavators; the wavy bands of rockwork (Furumark's mot. 34) are found largely in the early pictorial style (e.g. the krater with goats from Maroni, *CVA* Br. Mus. i, II Cb, pl. 10, no. 6, and the Metropolitan Museum chariot krater from Maroni, *AJA* 49 [1945] 544ff, figs. 8-10), and the curving shape on fig. 407, no. 12 is surely the neck and part of the head of a long-necked waterbird, as on the Metropolitan Museum krater, C.P. 3815 (cf. *op.cit.* 534ff, figs. 1-4). The context of these latter sherds, from House VIF, accords with their stylistic date in the early years of the fourteenth century. The ultimate provenance of these pictorial-style fragments at Troy is, of course, not certain, but their occurrence in the standard mainland and koine fabric along with many non-pictorial fragments in the same ware, and the relative infrequency of Cypriote imports to Troy VI, should make a mainland Greek rather than a Levantine origin preferable.

As to the two non-mainland Mycenaean wares found at Troy, one must accept Blegen's differentiation of "local" and "provincial," since this distinction is presumably more one of fabric than of decoration. Some of the sherds bear merely encircling lines or simple decoration not easily localized, but one deep kylix with octopus decoration (fig. 315, 34.713) in local ware is presumably an imitation of an LH IIIA import from the mainland or Rhodes. An eastern orientation for the provincial ware seems likely, although it need not have come all from one region. Fig. 417, no. 10, the fragmentary tankard with a school of fish, has its closest affinities with some Rhodian material (e.g., *BMCat* I, i, A 846 from Ialysos), whereas the sherd of a panelled bowl with foliate spray (fig. 413, no. 7) suggests connections with Furumark's Rude Style found chiefly in thirteenth-century contexts in Cyprus and Ras Shamra. Both pieces seem as late as, if not later than, any of the standard imported Mycenaean in Troy VI contexts.

Despite the ancestral connections between the Mycenaean Greeks and the people of Troy VI, both being offshoots of the same ethnic movement, and despite the copious imports of Mycenaean objects (not only pottery, but barbed arrowheads, alabaster and marble sword pommels, paste beads and ivory) from the sixteenth century onwards, Troy never became a Mycenaean citadel. The excavators take pains to point this out, and to show that the rite of cremation as practiced in the cemetery at the time of the earthquake was quite foreign to contemporary Aegean practices and probably owed its origin to the Near East (the Hittite kingdom, North Syria and Palestine). The Greeks themselves may have taken this over from the East in the days of migration that accompanied the

break-up of the Mycenaean world, for cremation began in the Submycenaean period and became universal in the Protogeometric period. The contacts between Mycenaean Greece and Troy in the thirteenth century and at the time of the Trojan War are problems that must await the appearance of *Troy IV*. Meanwhile we must thank Professor Blegen and his colleagues for a most carefully conducted excavation and for the very orderly and full presentation of their material.

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DIE WELT DER HETHITER, by *Margarete Riemschneider* (Grosse Kulturen der Frühzeit). Pp. 124, pls. 108, indices pp. 237-259. Gustav Kilpper Verlag, Stuttgart, 1954.

In the preface to this volume H. T. Bossert explains the need of a popular book on the Hittites which would offer enough plates to carry a proper visual demonstration of its points. Bossert's own *Altanatolien*, an admirable compendium of Anatolian illustrations, is out of print. The series *Grosse Kulturen der Frühzeit* seems an excellent framework for a new enterprise on Hittite art and culture. It is meant for the general educated public, and has enough space provided for a sizable written introduction to the liberal number of plates (here 108). The text of the Hittite volume is the work of Mrs. Riemschneider. In the preparation of the plates she had the assistance of Bossert, although it is not explicitly stated that he is responsible for the final arrangement of the illustrations. An improved version of the bibliography and list of plates (pp. 237-254) has been printed separately and is now available with the original volume.

As one begins to inspect the book the quality of the illustrations is immediately obvious. The plates are of generous size, usually giving much larger views of their subjects than those in *Altanatolien*. The selection is necessarily much more restricted, but the halftones are clear and generally made from excellent originals (pl. 5 is an exception).

The typography is equally agreeable and one begins to read the book expecting to find an introduction of the same clear and sensible kind as external appearances suggest. Instead, one is baffled by a casual, subjective and partly cryptic approach to the subject of the Hittites, their history, social institutions, literature, art and religion. Instead of a simple and fundamental discussion of established facts and a clearly separated, but possibly stimulating, section reserved for hypothesis and theories, we are offered a thorough mixture of data and fanciful guesses. One can only advise the general reader to hurry back to the good sense offered in O. Gurney's *The Hittites* (Pelican Books A 259) for information. Specialists in Hittite philology and history will have their own detailed criticisms to make in the proper places. One may question the wisdom of publishing such a subjective account as the present one in a popular series where the author will mislead the public, without having to vindicate her views with footnotes and scholarly documentation for the professional reader.

The book will still have its useful side in the illustrations, but inherent in the arrangement of plates is some of the faulty thinking that also permeates the text. Any account of Hittite art and culture will have to define the way it is going to use the category labelled "Hittite." There is thorough chaos in terminology due to the peculiar history of rediscovery of the "Hittites" and other peoples of Asia Minor, and one cannot appeal to a generally accepted set of definitions in this field.

Much can be said for a terminology that calls the contents of the period from the Old Kingdom (about Labarna) and Empire to the destruction c. 1200 "Hittite" proper, and the art and culture of the surviving and reviving Iron Age kingdoms in the Southeast (e.g. Malatya, Carchemish, Marash, Zincirli, Karatepe, Tainat) late Hittite or neo-Hittite. In this liberal terminology "Hittite" stands for slowly changing contents, but an underlying continuity and consistency can be traced. A book on "Hittite" art would have to illustrate the early and late versions of what is "Hittite" style, and a clear chronological separation would enable the reader to test stylistic differences and affinities in an objective manner.

This essential separation of (Bronze Age) Hittite and (Iron Age) Late Hittite is not made in the grouping of illustrations in the volume discussed. As a result, stylistic confusion arises, and it seems that many hard-working scholars (cf. E. Akurgal, *Späthethitische Bildkunst*) have labored in vain to clarify the issue. Once or twice an interesting juxtaposition is offered (pls. 41-42), but in general chronological irresponsibility leads to losses rather than gains in artistic perception.

What hardly has any place in a book on "Hittite" art is two categories included here: art preceding the period of "Hittite" establishment, and art outside of the Hittite provinces, although peripheral cases of hybrid styles might be usefully presented for comparison.

The beginnings of "Hittite" settlement and art in Asia Minor are again a matter of definition. As it is assumed in the text (pp. 15ff, cf. p. 1) that the "Hittites" immigrated in the third or even fourth millennium B.C. and that their hieroglyphic script was invented about 3000 B.C., it is no surprise to find some material from the Royal Tombs at Alaca included in the illustrations (pls. 32-33) and less to encounter a few objects from the Assyrian colony period at Kültepe (pls. 95 b, 100 b, 101). It would be safer to separate these plates under the heading of "pre- and proto-Hittite." On the other hand, the cosmopolitanism of Mrs. Riemschneider's Hittites knows neither chronological nor geographical limits when pls. 26-27 are included and discussed as Hittite (107): the figurines from Judeideh (pl. 26) are of the Amuq G phase which is certainly early third millennium Syrian (cf. Braidwood *AJA* 41 [1937] 12; *Relative Chronologies in*

Old World Archaeology, 38; a period equated with Gerzean and Dynasty I in Egypt, Protoliterate c-d and Early Dynastic I in Mesopotamia. Contrast also the better plate in H. Frankfort, *The Art and Architecture of the Ancient Orient*, pl. 135, where the relative sizes are clear).

Of the extraneous material pls. 24-25 are typically Syrian, pl. 30 is uncertain, pl. 62 is Etruscan (cf. the catalogue *Kunst und Leben der Etrusker*, Kunsthaus Zürich, 3rd edition, 67, No. 105 from Vulci; cf. also R. Werner, *BiOr* 12 [1955] 83). The Tell Halaf material (pls. 17, 61, 80, 82) is peripheral and partly irrevelant. It should be presented separately, if at all, in any book on Hittite art.

If this volume has to be reprinted—and the demand for illustrations may lead to it—one wishes the text could be remodelled and the plates reshuffled. Only after considerable modification could the book give a clear idea and definition of what is to be presented nowadays as "the world of the Hittites."

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SZTUKA STAROZYTNA by *Kazimierz Michałowski*. Pp. 272, figs. 166, maps 3, pls. 5. Wydawnistwo "Sztuka," Warsaw 1955. Zł. 14.50.

This is an illustrated guide to the Egyptian, Greek, Etruscan, and Roman antiquities in the National Museum, Warsaw, many of which were formerly in other collections public and private; it also provides short historical accounts of the development of the arts in those regions, a glossary, and a bibliography. The 166 illustrations include a good many unpublished pieces. Most of the marbles are known already from *Einzelaufnahmen* and other places. Among the bronzes, the early classic mirror-support, in the form of a female figure dressed in a peplos (p. 34), was, I think, unpublished. One may guess that the right hand held a dove. Among the vases there is the prize Panathenaic formerly in Breslau (pp. 105-06); red-figure from the Branicki, Potocki, and other collections, most of them published in *CVA*, like the unsigned Tleson cup (p. 98), but some new, like the black-figured neck-amphora, with rows of animals, rightly attributed to Sophilos in the text (p. 97). An early white lekythos is from the Vogell collection (p. 32; *Sg Vogell* pl. 3, 13). Not quite worthy of its place is the black-figured oinochoe, p. 29, already published thrice, most recently in the Polish *Archeologia*: see *JHS* 56 (1936) 254 and *ABV*, p. 536 on no. 41. The very useful Vogell catalogue cited on p. 243 was the work of Boehlau; Cramer was only the auctioneer.

J. D. BEAZLEY

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ANTIKE KLEINKUNST IN SCHLOSS FASANERIE (ADOLPHSECK) by *Frank Brommer*. Pp. 45, figs. 32. N. G. Elwert Verlag, Marburg/Lahn 1955. D.M. 3.00.

This is a brief guide, or rather a brief and perfect introduction, charmingly written, to the collection of Landgraf Philipp of Hesse (at Adolphseck near Fulda), which is now open to the public. The illustrations are excellent. Among the bronzes are a good Corinthian helmet, and a pleasant Etruscan statuette of a discus-thrower (the word "Etruscan" might perhaps have been added to the caption for the sake of the simpler visitor, as with the vase on the opposite page). The finest of the vases is the lekythos by the Pan Painter (fig. 17). Degenerate in style, but of extraordinary importance for the subject matter, the pair of kraters by the Kekrops Painter (figs. 20-21). Droll, the name-piece of the Hesse Group (fig. 29), which was not presented to the Berlin Museum, as I supposed in *EVP*, p. 209, but only lent. There are choice terracottas, Tarentine and other; and a nice fragment of a Tarentine relief in limestone (fig. 24).

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SALA DE ARTE ANTIGUO. EGIPTO, GRECIA, ROMA. COLECCIÓN CONDE DE LAGUNILLAS, by *Francisco Prat Puig*. Introduction by *Guillermo de Zéndegui*. Pp. 16, figs. 11, plan. Instituto Nacional de Cultura, Havana.

On May 30th of this year the Lagunillas collection of ancient art was made open to the public in a special gallery of the Palacio de Bellas Artes. Readers of this *Journal* will be familiar with the name Lagunillas from the loan exhibition of ancient art in American private collections, held at the Fogg Art Museum in the winter of 1954 and 1955, or from Beazley *ABV*, and other references to his vases and sculptures elsewhere. With the opening of the Lagunillas Gallery in the museum at Havana, the scope, size, and quality of the collection can now be judged by every visitor, and some idea of it can be formed by the reader of Professor Prat's catalogue. Last minute changes in the arrangement of the gallery make the floor-plan on p. 7 obsolete in some respects: the sculptures have been placed somewhat differently, and the Attic white lekythoi are no longer shown with the Tarentine terracottas and limestone sculptures in case 32, but with Attic red-figure in case 21. It should also be noted that the Panathenaic prize amphora, illustrated on pp. 6, 10, and the inside of the back-cover, has been cleaned with the result that the modern white has disappeared. The shield devices, however, originally were of the forms as restored.

The collection was formed by the Conde de Lagunillas in the last thirteen years and is still growing. It is, apart from some antiquities in the museum at São Paolo and at Petrópolis, the only collection of ancient art in Latin America. Catholic in taste, it covers

almost the entire span of antiquity, lacking only Mesopotamian art. The chief glory of the collection is the Greek pottery. There are over 130 vases in Havana on which a paper will appear in one of the next numbers of *Revista* (published by the Instituto Nacional de Cultura). Some of the sculptures are mentioned elsewhere in this number of the *Journal*. The very sizeable collection of Greek coins—a good many from the Jameson collection—is not yet exhibited. Of his vases, one will be shown at the Louvre, one has remained on loan in Manchester, and four are still lent to the Metropolitan Museum of Art, which also has on loan his fragment of an Attic grave relief.

The exhibition has been a great success in Havana (cf. *Diario de la Marina* of June 1, 1956 and *El Mundo*, same date), and perhaps the day is not too far off when the interested public in Cuba will want to form an archaeological society.

DIETRICH VON BOTHMER

THE METROPOLITAN MUSEUM OF ART

TEN WHITE LEKYTHOI IN THE NATIONAL MUSEUM. Engraved on wood and copper and printed by hand by *John Kefalinos* and his pupils *Louisa Montesantou, George Varlamos* and *Nicholas Damianakis*. Introduction by *Semni Karouzou*. English translation by *Lucy Talcott*. Pp. 24, pls. 10, figs. 8. Athens, 1953-1955. Privately printed. 3000 drachmas ($100). (Available with either English or Greek text.)

This lavish portfolio contains color reproductions of the figured scenes on some well known white lekythoi in the National Museum in Athens. It is a labor of love on the part of Mr. Kefalinos, Director of the Athens School of Fine Arts, and a group of his students who have spent about three years in its preparation. Handsomely printed on heavy, hand-made rag paper, these reproductions catch the spirit, the texture and the delicate pastel shades of the originals almost perfectly.

The title promises us ten vases but we are actually given more, for in addition to the ten illustrated on the plates, seven others are reproduced either wholly or in part in text illustrations and on the covers. The drawing has been done with the greatest skill and care. The basic outline of each picture was engraved on a copper plate and the colors added from wooden blocks, a separate block for each color. The result is a series of faithful reproductions of the original vases, which are a credit to the artists and the craftsmen who produced them. They should be invaluable to students of Greek art, especially to those who do not readily have access to originals. Mrs. Karouzou's introduction gives an outline of the development of the white lekythos and brief but sensitive descriptions of the vases illustrated.

The following notes may be of service to the scholarly user. The lekythos illustrated on Plate III is a recent acquisition and is published here for the first time. It is assigned to the Charon Painter, an artist whom Beazley calls the Sabouroff Painter, and it appears as No. 133 in Beazley's list, *Attic Red-figure Vase-painters*, p. 562; it was then in the Athens Market.

The museum numbers are given for the vases illustrated on the plates but not for those illustrated in the text. I give below the identifications of the latter. Stiff outer cover: No. 1950, Low Eye Painter. Soft inner cover and colophon: No. 1935, Bosanquet Painter. Title page: No. 1762, Painter of Athens 1762. Pp. 1-2: No. 1755, Triglyph Painter. Pp. 6-7: No. 13701, perhaps Painter of Athens 1826 (illustrated here for the first time). Pp. 11-12: No. 1963, Achilles Painter. Pp. 22-24: No. 12783, Quadrate Painter.

Two small corrections: p. 15, the reference to pp. 16-18 should be to pp. 22-24; Pl. VI, the museum number is 1843, not 1643.

EUGENE VANDERPOOL

AMERICAN SCHOOL OF
CLASSICAL STUDIES AT ATHENS

ART IN COINAGE, by *C. H. V. Sutherland*. Pp. 223, figs. 147, Philosophical Library, Inc., William Clowes and Sons Ltd., 1956. $7.50.

This excellent book traces the development of the art in coins from the beginning of coinage down to the present day, from the early Greek issues to the coinage commemorating the Coronation of Elizabeth II. The assignment required a breadth of view and a perspective with which the author is admirably fitted. He is the Deputy Keeper of coins in the Ashmolean Museum at Oxford and a past President of the Royal Numismatic Society.

Approximately half of the book is devoted to the beginnings of coinage and the Greek and Roman period. A tenth of the book is devoted to the Byzantine period, and the balance to Medieval, Renaissance, and modern coinage. Medals have been included as they were quite often designed by the same artists who worked on coins, although the technique differs in that medals are sometimes cast rather than struck. In this survey the development of types and their gradual evolution is presented in an informative and interesting manner. As coinage reflects the style of other art of the period, it provides an almost uninterrupted pictorial sequence of art from the seventh century B.C. to today.

Coins are normally regarded by archaeological specialists as useful tools for chronology in excavations, as evidence of foreign trade, as an iconographic source for the representation of gods and goddesses, or rulers, as a medium of exchange showing certain monetary systems, and other valuable contributions. Sometimes, however, we tend to overlook an almost self-evident fact about coinage, that it is an independent art form. It is true that the craftsman who designed coins in ancient times were often also engravers of intaglios, but the true artists who have worked on coins have

had to solve problems even more complex than those faced by engravers of seals and gems.

Throughout the text, the technical methods of the creation of the dies and the production of coins are carefully explained. The natural limitations of the size of the dies and the materials from which coins are made impose artistic as well as manufacturing problems. It is only by understanding these limitations that we can properly evaluate the artistic worth and contribution of the coin and medal designers.

The author quite rightly deplores the uniform lack of good design in our modern coinage which he points out has resulted from centralized, state-controlled methods, mass production, as well as the mistake of judging proposed coins by large-scale models. The billions of coins needed as a medium of exchange today preclude the return to the more primitive but more artistic coining procedures of the past. The author, however, makes certain constructive suggestions to raise the standards of our modern coinage.

The photographs used to illustrate this book are of unusually fine quality. All the coins have been photographed directly, most of them individually given the required lighting. After all, a coin may be considered to be a small relief. The location of the lights, the casting of shadows, and the position of the highlights are just as important in the photography of coins as they are in the photography of any other type of sculpture. The reproduction of the 147 photographs adequately illustrates the scope of the book. This type of publication, however, can almost never have too many illustrations. On reading the text, one feels that the publisher forced the author to cut down on the number of pictures. Engraving and printing costs are high, but the addition of another fifty illustrations would have been most valuable and would not have increased the price of the book to a point where it would have decreased its sale. It is hoped that publishers of archaeological works will allow a continuingly greater use of illustrations in the future, since their value exceeds so far the additional cost.

JOSEPH V. NOBLE

MAPLEWOOD, N.J.

ANCIENT COINS, by *George M. A. Hanfmann* and *Miriam S. Balmuth*. Pp. 40, figs. 50, The Fogg Art Museum of Harvard University, 1956. 75 cents.

This is The Fogg Picture Book Number 4 and serves to introduce ancient coins to non-technical readers, such as visitors to the Museum. As the title implies, this is a picture book and its numerous illustrations show the beauty of ancient coinage. An introduction gives a general background of the subject.

The coins chosen are from those on view at The Fogg Art Museum, many of them recently given or lent. This is a teaching collection and the examples are neither the great rarities nor the beautiful specimens that are usually illustrated in books on coins. Rather, they are the average examples within the reach of the purse of the private collector. It is hoped that this publication will encourage new collectors in this fascinating field.

The sequence of the pictures is by subject matter, not chronologically or by mints. Photographically the illustrations are quite good, being made directly from the coins rather than plaster casts. They are reproduced enlarged, varying in magnification from two to five times. It would have been desirable to have all the backgrounds uniform. Several coins are wrongly poised. In numbers 2 and 14 the depth of field did not quite carry the high relief of the coins. A list of corrections has been issued: caption no. 12b read "same coin as Plate 1b"; caption no. 31a read "granddaughter" for "daughter"; caption no. 32a read MAXIMINUS in heading.

JOSEPH V. NOBLE

MAPLEWOOD, N.J.

DIE KAUERNDE APHRODITE, by *Reinhard Lullies*. Pp. 117, figs. 56. Filser-Verlag, München-Pasing, 1954. DM. 12.00.

Dr. Lullies, well known for much valuable work including his recent editorship of *Neue Beiträge zur klassischen Altertumswissenschaft* (*Festschrift B. Schweitzer*, 1954) and his comments in the recent edition of *Griechische Bildwerke in Rom* (1955), has brought forth a monograph on the "Vénus accroupie" at a time when the literature on this subject has been increasing at an astounding rate. As he states in an Epilogue referring to Adriani's major contribution on the Aphrodite of Doidalsas (p. 108; *BSRAA* 39 [1951] 144-181), his own manuscript went into the editorial stage in the spring of 1948, although reference (p. 95, note 145) is made to D. von Bothmer, *Greek, Etruscan, and Roman Antiquities* (Baker Coll. Exhibition, N.Y. 1950), in connection with (no. 95) the rf pyxis showing preparations for a wedding (a crouching figure being doused by an Eros with a hydria). The relative simplicity of Doidalsas' career, or rather the complete lack of information concerning his works (other than the Zeus Stratios of Nicomedia and probably the Bathing Aphrodite), and the striking compositions of the Vienne-Villa Adriana (Terme) and Rhodes Crouching Aphrodite types have drawn a number of critics to contemplation of Doidalsas from the standpoint of the sculptures and the Crouching Aphrodites from the standpoint of their replicas and variants.

Before turning back to Lullies' monograph, we may mention the works treating the Crouching Aphrodite which have appeared since Lullies sent his manuscript to press. L. Laurenzi (*Annuario* 24-26 [1946-48] 167-179) discussed the Terme marble and the Durighiello bronze in the Louvre in connection with a marble statuette of the Zeus Stratios found in the excavations of Camirus (*ClRhod* 9, pl. 2, figs. 22f), which gives a faithful demonstration of the bronze original, with the same alterations and lengthening of drapery characterizing the Olympia copy of the Hermes of Praxiteles.

Lippold (*Handbuch der Archäologie* III, 1, Munich 1950, 319, pl. 112, 1 [Terme]) went on record that the original of the Vienne-Villa Adriana type was a work in bronze (so also Lullies, p. 49), that the Porticus *Octaviae* (Porticus *Octavia* was a separate building) statue mentioned in Pliny's extremely concise passage (*NH*, 36.35) was a copy (listed by Pliny among statues in marble), and that the style was allied to the Florence "Arrotino" of the earlier Pergamene school. F. Poulsen's English edition of the Copenhagen Catalogue supported these views, in dealing with the bronze (Lullies, figs. 13f) already thoroughly evaluated by O. Brendel (*Cat. of Ancient Sculpture in the Ny Carlsberg Glyptotek*, 1951, 60f, no. 51; *EA* nos. 3788ff). In a thorough, concise presentation of known evidence, in connection with the Metropolitan Museum marble (Lullies, 16, no. 24), Miss Richter reminded us that the Crouching Aphrodite known best from the copy found in Rhodes (Lullies, fig. 51) presented important claims to being (1) the statue mentioned by Pliny (2) possibly a second creation by Doidalsas (or Doidalses), or (3) at least a separate, contemporary Greek original (*Cat. of Greek Sculptures*, 1954, 87f, no. 159). J. Charbonneaux (*AJA* 59 [1955] 253) felt that the elegant, small, unaxial dimensions of the Rhodes statue placed the original in the period of Neo-Attic art.

In *Ancient Italy* (Ann Arbor 1955, 47f, figs. 150-157), Miss Richter reiterated that the Rhodes type was not a Roman copyist's variant of the larger statue but "it seems more likely that the second version goes back to a different Greek original, for it too exists in a number of Roman copies of different sizes." D. von Bothmer has kindly called attention to the fact that Reinach, *Rép. stat.* III, 114, no. 2, cited by Miss Richter (*Ancient Italy*, 47, note 68), is not Mr. Walter C. Baker's statue (Bothmer, *op.cit.* 10, no. 67) but Bayonne, Musée Bonnat no. 49 (Archives photographiques BAA 13; Lullies, p. 85; also Reinach, *Rép. stat.* V, 159, no. 4, where it looks somewhat different). Mr. Baker's statue is said to have been found at Halicarnassus. In *The Sculpture of the Hellenistic Age* (New York 1955, 82ff), Miss Bieber implies connection between the story of Nikomedes' wishing to buy the Cnidian Aphrodite (Pliny, *NH*, 36.21) and the commissioning of the bathing Aphrodite from Doidalsas. This would throw light on the purpose, inspiration, and perhaps even the material of the Crouching Aphrodite, had not the commentators reminded us long ago (Jex-Blake and Sellers, 193) and Lullies again (p. 28f) that it is uncertain whether the Cnidia incident relates to the third century Nikomedes or one of his successors, say Nikomedes IV (c. 74 B.C.), after the first Mithradatic war (84 B.C.). The latter seems more likely, since the Cnidia would have had longer to increase in value as a work of art, especially in the later Hellenistic era of revived classicism. Miss Bieber does identify the Rhodes type as a variation combined with the Anadyomene type in such a way as to destroy the closed, pyramidal form of the principal or Vienne-Villa Adriana version.

In the realm of replicas and variants of the principal version has reappeared the Venus once belonging to Charles I (*AJA* 59 [1955] 149f, pl. 46, figs. 29f). Since the head with its simpler version of the more elaborate hairdress belongs (cf. the better Torlonia statue and the Copenhagen bronze Lullies, figs. 11, 13f), this statue is not the example drawn as Reinach, *Rép. stat.* II, 370, no. 1 (Lullies, p. 17; *in aedibus Giustiniani* according to Cavalleris II, 68, for which see Ashby, *PBSR* 9 [1920] 152), which is in fact the second Naples example (Lullies, p. 15, no. 17), with a long Renaissance history. The Naples statue, however, must be the marble known to Episcopius (*Signorum Veterum Icones*, pl. 77), since Reinach took his drawing from that source. (Joh. Episcopius or Jan Bisschop published at The Hague ca. 1671 but had access to drawings by artists of the previous century, such as Heemskerck: see Michaelis, *JdI* 6 [1891] 169.) Charles I procured his statue, along with a host of other antiquities, from Isabella d'Este's collection at Mantua, where it was highly prized (W. Noël Sainsbury, *Original Unpublished Papers Illustrative of the Life of Sir Peter Paul Rubens*, London 1859, 337, correspondence from Daniel Nys in Venice to Lord Dorchester, Charles I's Secretary, brought to my attention by Prof. Paul Norton: "Figure of a woman sitting in marble, some say *Venus delli Ely*, others *Helen of Troy*. It is the finest statue of all, and estimated at 6000 *escus*." [Much too lavish an evaluation for a statue other than one in excellent condition and about £6000, present value, see R. Wittkower, *Gian Lorenzo Bernini*, N.Y. 1955, 174]). Finally, the sad fortunes and present condition of the important Aphrodite and Eros group from the Cook Collection at Richmond (Lullies, p. 12, no. 5, fig. 6) are documented elsewhere in this issue. (Also LeVane, *Collector's Choice*, pl. p. 289.)

It is against the background of this varied body of literature that we must judge Lullies' monograph, and the book stands up very well as documentation not merely of the Doidalsas problem, which is the core of the work, but of the whole history of the Crouching Aphrodite and related figures in Greek art, ca. 500 B.C. to the end of the Hellenistic age. After detailed examination of twenty-seven replicas and variants of the Vienne-Villa Adriana Aphrodite, Lullies reaches most of the orthodox conclusions of the writings discussed above: that this is the Doidalsas version, that the original was in bronze (since the supports vary so radically: swans, rocks, overturned hydriae, dolphins, little pillars), and that the Rhodes type belongs in the late second, earlier first century B.C. era of revived classicism (p. 84). Using the very painterly coin-type of Nikaia in the reign of Alexander Severus and the ill-fated Cook version as touchstones, he postulates (probably quite rightly) the presence of an Eros at the right side of Aphrodite in the original composition (pp. 37ff). In most marble copies the Eros naturally lays both hands on Aphrodite; Lullies suggests he might have held up a mirror in the right hand, as focal point, in the bronze original (see cover illustra-

tion and fig., p. 38). The Florentine Arrotino (for the possibility of an extant replica, lost in America, see F. von Lorentz, *Festschrift Andreas Rumpf*, 107ff) is disassociated from the Doidalsas creation and linked with the art of the Pergamene School at its height, in the period from the so-called second Attalus dedication to the sculptures of the Great Altar. Finally, in an initial chapter ("Zur Verwendung des antiken Vorbilds in der neueren Kunst"), the author follows the current fashion of tracing the Doidalsas Aphrodite motive through Renaissance and later sculpture and painting, as has been done so often with the Laocoön and the so-called Three Graces (see now the copious bibliography and illustrations, H. Ladendorf, "Antikenstudium und Antikenkopie," *AbhSächs* 46, no. 2 [1953] 121-161; also Brendel, *ArtB* 37 [1955] 113ff).

In concluding, we venture a few random comments. S. Reinach emended the crucial passage in Pliny to link the well-known type of Aphrodite adjusting her sandal with the work ascribed to Polycharmus: *Venerem lavantem sese Doedalsas stantem (pede in uno) Polycharmus*, on the theory that *stantem Polycharmus* made no sense in a world where most Aphrodites stood (see the comment by Mrs. Strong, *JHS* 28 [1908] 14ff, under Cook, nos. 16f). The epithet "standing," however, would not be otiose when applied to a Venus mentioned directly after one that was well known to be represented as crouching. Surely one would say, "Michaelangelo's statue of Moses is in S. Pietro in Vincoli; a standing Moses is illustrated in figs. 291-293 of Miss Richter's *Ancient Italy*," implying that every one knows Michaelangelo's Moses is seated. Furthermore, the identification of the Crouching Aphrodite as the work of Doidalsas really rests, as Miss Milne has kindly reminded me, on the antithesis between *lavantem sese* and *stantem*. S. Reinach's emendation *stantem* (pede in uno) destroys this antithesis (for a sponge bath can just as well be taken standing) and with it the identification. It seems more reasonable, therefore, to attribute to Polycharmus the well-known half-draped Aphrodite Anadyomene type, discussed by Lullies (pp. 78ff, figs. 48f, eight replicas, several from Rome; add as no. 9 the statue at Syon House, *AJA* 59 [1955] 148; variants also Mustilli, *Museo Mussolini*, 38, under no. 8, and in Riemann's long lists, *Kerameikos* 2, 118f). This statue would have made an excellent companion for the Doidalsas group in a Roman temple museum.

The reviewer shares Lullies' suspicions about the Durighiello bronze in the Louvre (p. 23f, 86; accepted by Bieber, *op.cit.* 83, fig. 292; Lawrence, *Later Greek Sculpture*, 17f, pl. 25a; *et al.*). The position of the right arm seems based on wrong restorations of the marble copies and should be brought up to the hair in the manner of the Copenhagen bronze, although the classicizing head with the hair arranged more in the manner of Julio-Claudian portraits (Agrippina) may account for this, and the first Vatican statue (Lullies no. 9, fig. 10) has the right arm lower than the rest. Save for its graceful, quite Cinquecento head, the Durighiello bronze finds its closest counterpart in the small marble statue from the Lancellotti Collection in Rome, sold at Parke-Bernet 9 June 1949 in Part III of the Joseph Brummer Collection (106, no. 490, fig.) and again at Parke-Bernet 8 June 1956 (46, no. 255, brought to my attention by D. von Bothmer). It has been dated "Italian XVI-XVIII Century" by the cataloguers. Both the bronze and the marble depend on some questionably antique or at least heavily recut marble such as the statue in the former Palazzo Antinori in Florence (Lullies no. 13), which A. Neppi Modona (*EA* no. 4058) related to the Uffizi version (Lullies no. 14). The two illustrations of the head and right arm, with shoulder and breast, of a marble Crouching Aphrodite once with the late Dr. Jacob (never Jakob) Hirsch in Paris show a fragment that looks too good to be ancient (Lullies figs. 17f). Again the mannered grace of the hand would seem to betray the imitator of the better Torlonia and the better Naples statues (Lullies nos. 11, 16, figs. 11, 15). The Windsor Venus of Charles I (see above) has been described as having the fingers of the right hand restored; the whole right arm (broken below the shoulder) should be reset to bring the arm closer to the head and the hand to the hair.

Charbonneaux (*loc.cit.*) speaks of the Rhodes type as "the transposition in the round of a motive which appeared in the fourth century in vase painting (and probably in large-scale painting)," and it is in the interaction of painting on sculpture and vice versa in the Hellenistic period that we should judge the variants in marble, in relief and on coins of the Vienne-Villa Adriana Crouching Aphrodite. The Nikaia coin (mentioned above) suggests a painting inspired by the statue, and a painting in turn certainly lies behind the similar groups of a Crouching Aphrodite, two Erotes, and a swan on cineraria in the Conservatori (Richter, *Anc.Italy*, 101, fig. 289) and London (Reinach, *Rép.rel.* II, 460, no. 2). The alterations in the positions and actions of the Erotes in those free-standing copies which include them could certainly be dictated by work in other media; such must be the case with the particularly hideous Crouching Aphrodite group in the Terme (Inv. 8564) from the Ludovisi Collection (Lullies no. 8, fig. 9). Unfortunately we have only the earlier parallelism of the vases discussed and illustrated by Lullies (figs. 35-42) and a few small reliefs. In a popular motive such as the previously mentioned "Three Graces," who appear in innumerable versions in a variety of ways (Richter, *op.cit*, figs. 243f; Rodenwaldt, *JRS* 28 [1938] 60ff; Becatti, *BullComm* 65 [1937] 41ff), or in the Perseus and Andromeda relief in the Capitolino (Stuart Jones, *Cat.*, Stanza degli Imperatori, no. 89, pl. 53) and paintings in Naples (Richter, figs. 235f), we have more demonstrable examples of this interdependence of painting and sculpture.

CORNELIUS VERMEULE

BRYN MAWR COLLEGE

LA VIE QUOTIDIENNE EN GAULE PENDANT LA PAIX ROMAINE (I^er^-III^e^ SIÈCLES APRÈS J.-C.), by *Paul-Marie Duval*. Pp. 364, tail-pieces between chapters. Librairie Hachette, Paris, 1952. Fr. 700.

Through several channels a copy of this summary of all aspects of Gallo-Roman daily life has reached this *Journal* for review. The book has appeared in a series of twenty-five titles, treating of daily life from ancient Egypt through all periods of French history to 1900. There are volumes on such diverse subjects as Greece in the time of Homer, China, the Incas, and modern Morocco. Several have been translated into English and other languages; the best known is certainly Jérôme Carcopino, *La vie quotidienne à Rome* (1939; English language edition, tr. E. O. Lorimer, ed. H. T. Rowell, New Haven 1940). M. Duval is well qualified to produce the present volume, having already written a book on Cherchel and Tipasa and major articles on aspects of archaeology in Gaul (*Gallia* 5 [1947], 10 [1952], etc.).

The title suggests that the period selected for investigation is marked at the beginning by the Gallic and British activities of the Emperor Claudius (A.D. 41-54) and at its conclusion by the submission of the Gallic Tetrici to the Emperor Aurelianus (A.D. 273). Later parallels and the testimonies of later writers are included if they throw light on customs in these two hundred years of greatest peace and prosperity. Chapters dealing with the country and its inhabitants, life in the home, work and occupations, the professions, amusements (hunting, fishing, circuses, baths, etc.), and religious practices are followed by a general bibliography (p. 335f) and twenty-five pages of useful notes and valuable further references, especially the citations of articles in provincial periodicals.

Within the chapter headings many subjects are covered, and in some cases the coverage is naturally quite brief. For example, the section on mints and coining techniques (p. 153f) mentions the Lugdunum Mint and gives some general remarks on the manufacture of coins, citing A. Blanchet, *Traité des monnaies gauloises* (1905), as the only reference. By not having used at least Part 1 of E. Babelon, *Traité des monnaies grecques et romaines* (1901), this section misses any mention of the important coin dies and coining implements found in greater numbers in Roman Gaul than any place else throughout the ancient world (C. M. Kraay, *JRS* 45 [1955] 241; M. Grant, *NumChron* 44 [1954] 229f; P. Le Gentilhomme, *RevNum* 1946, Procès Verbaux, ii-viii, and other references).

While the lack of plates certainly contributes to the reasonable price of the book, many necessary illustrations are scattered in obscure works, and even the Espérandieu volumes for Gaul and Germany (*Recueil des bas-reliefs*) are lacking in many libraries. An edition priced at say 1000 francs and containing a section of pertinent plates could be bought by most and would be extremely useful (cf., in this respect, O. Brogan, *Roman Gaul*, Harvard U. P. 1953; H. Comfort, *AJA* 59 [1955] 188).

CORNELIUS VERMEULE
BRYN MAWR COLLEGE

THE TEMPLE OF NEHALENNIA AT DOMBURG, by *Ada Hondius-Crone*. Pp. 123, pls. 41, figs. 5. J. M. Meulenhoff, Amsterdam, 1955.

Ada Hondius-Crone has produced a fascinating account in modern format of a group of Roman provincial sculptures, bronzes, and coins which have a modern history going back to A.D. 1646. The town of Domburg on the island of Walcheren near Middelburg in Zeeland is separated from the sea only by a narrow ridge of sand-dunes; three hundred years ago these dunes were much broader, and no one suspected they concealed a Roman temple, built when the dunes had been farther out and the site part of the wooded mainland of the island (fig. 1). Late in 1646 fierce gales swept the dunes, and on 6 January 1647 erosion by the sea laid bare a large number of stone altars and other objects. The local authorities removed the stones to the Domburg church for safekeeping, where they were to rest until 10 October 1848 when destroyed or badly damaged in the collapse of the tower roof.

Fortunately for antiquarians and museum officials the site and objects of the Temple of Nehalennia were much appreciated following their discovery, and drawings were published by scholars who journeyed to the area to record the finds. This lamp of scholarship did not burn somewhat fitfully in Holland alone (Bagnani, *AJA* 59 [1955] 109), and word of the goddess Nehalennia and her mixed iconography reached the learned antiquary Msr. Giovanni Ciampini, remembered for his studies of wall paintings and minor antiquities (he was much consulted by Cassiano dal Pozzo: Th. Ashby, *CR* 18 [1904] 70ff), in Rome via a letter from François Graverol of Nîmes. A very important study of the Domburg altars with a set of newly drawn lithographs was published by L. J. F. Janssen, Curator of the Leiden Museum of Antiquities, in 1845, only three years before the church tower was struck by lightning. After various negotiations, the surviving stones became the property of the Zeeland Society of Sciences and were deposited in its Museum at Middelburg, where the late Comm. E. Espérandieu republished them with new photographs, Janssen's lithographs, and notes by Miss M. G. A. de Man (*Recueil général des bas-reliefs, statues et bustes de la Gaule romaine* IX, Paris 1925, nos. 6639-6667). The task of resorting the fragments following the loss of Miss de Man's material in the bombardment of 1940 and the later disruption of the Middelburg Museum has led to publication of the present work.

The book is a further example of the trend in Roman provincial, especially Romano-British archaeology, toward presenting such excavations or studies of old material not merely in inaccessible county periodicals

but in monographs of appealing design which endeavour to treat the broader meaning of the provincial material studied. The Temple of Nehalennia is obviously no Vix burial or London Mithraeum in quality of finds or popular appeal, but the writer makes us see the importance of a travellers' and seafarers' sanctuary near a Roman provincial harbour town opposite the most prosperous areas of Roman Britain. Here Roman merchants and their Romanized native associates offered vows to Nehalennia, a provincial or local being taking on iconographic aspects of Venus Pompeiana (pp. 103, 105; M. H. Swindler, *AJA* 27 [1923] 302ff), of Cybele, and even of Nemesis (cf. the types of the latter: Schweitzer, *Jdl* 46 [1931] 175ff; Devambez, *BCH* 64-65 [1942-43] 216ff; Ronzevalle, *Orientalia* 3 [1934] 121ff; K. Skutsch, *Die Antike* 12 [1936] 49ff). They also set up statues and altars to Jupiter Optimus Maximus (Capitolinus), to Neptune, to Hercules, and to Victoria, the last three being represented in those provincial diffusions of post-Lysippic Greek and post-Apollonius Roman cult images which one encounters on countless altars, bases, column drums, and the like collected in the pages of Espérandieu. A small bronze statue of a Genius (H.: 7 ins.) was found on the beach near the temple in 1731 and is now lost, although Janssen described it in 1845 (p. 88f, fig. B; a reference to E. Rink, *Die bildlichen Darstellungen des römischen Genius*, Diss. Giessen, 1933, rather than merely to F. Magi, *I rilievi flavi del Palazzo della Cancelleria*, pls. I, III, etc.).

Chapter I gives the history of the find in 1647 and the fate of the sculptures. Chapter II treats the site of the temple, which by 1750 was only visible at exceptionally low tide due to further action of the sea on the dunes and which by 1900 was lost beneath the cloudy waters of the North Sea (p. 19). Chapter III comprises a Catalogue of the Monuments, with drawings and photographs arranged to show the past and present states of the sculptures. The writer's careful catalogue of the coins, based on older illustrations of finds in 1647 and 1684, is a lesson to numismatists in the value of going back to studies before Cohen, E. Babelon, and Sabatier, *et al.* when seeking new Republican, imperial or later coin types or varieties (e.g. Hondius' nos. 3, 6, 9, p. 93; nos. 4, 9, 16, p. 94; in the second group, the 1684 finds, the drawings seem more accurate). The coins suggest the shrine enjoyed its greatest prosperity in the half-century of the Severan period. The writer concludes with a Chapter (IV) on the goddess Nehalennia, her iconography, and the divinities worshipped with her, in which interpretive parallels are gathered from as far afield as the so-called New Temple and the worship of the Great Mother of Samothrace (p. 111), although of course the celebrated Nike now in the Louvre could not have been "actually dedicated on the occasion of a victorious sea battle by Demetrios Poliorketes in 240 B.C.," since Demetrius (336-283 B.C.) struck his tetradrachm ca. 300, following the victory over Ptolemy off Salamis in 306. Miss Bieber suggests ca. 190 for the Louvre statue (*The Sculpture of the Hellenistic Age*, 125f, esp. note 13), and M. Charbonneaux speaks of the newly discovered right hand in connection with those of Alkyoneus and Ge on the Pergamon altar (*Hesperia* 21 [1952] 45).

CORNELIUS VERMEULE

BRYN MAWR COLLEGE

BYZANTINE STUDIES AND OTHER ESSAYS, by *Norman H. Baynes*. Pp. xi + 392. University of London, The Athlone Press, London, 1955. $7.00.

Seven lectures, fourteen articles, and ten review articles from the pen of the dean of British historians of Byzantium are reprinted in this volume. Two of the lectures and one article are hitherto unpublished, and all are in fine English style, succinct, and a joy to read.

There is not space here to go into either the manifold topics discussed by the author or a critical examination of any of the chapters. His lectures are stimulating on such subjects as "The Thought-World of East Rome," "The Decline of Roman Power in Western Europe," and "Alexandria and Constantinople: a Study in Ecclesiastical Diplomacy," in which the power politics and un-Christian activities of successive bishops of Alexandria might give lessons to modern dictators. Among the articles are "Rome and Armenia in the Fourth Century," "The Goths in South Russia," "The Death of Julian the Apostate in a Christian Legend," and "The *Pratum Spirituale*." The first analyzes the account of relations between the two states just after Armenia had become Christian, as described by the Armenian author Faustus of Byzantium, the value of whose work is underscored by the author. The second rejects the thesis of Rostovtzeff that the Goths developed a flourishing trade across the Black Sea during the early Roman Empire. The third, on Julian, refers again to Faustus, where a legend about Valens (= Julian here) shows the rapidity with which Christian hatred of Julian spread into legend and literature. The fourth analyzes the writing of John Moschus as a valuable source for life and popular thought in the eastern provinces of the Byzantine Empire.

There is meat in all of the chapters, and the reviews are models, which this one unfortunately does not follow. Material for the archaeologist, however, is scant, but all is of great interest.

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HELLENISTIC-BYZANTINE MINIATURES OF THE ILIAD (ILIAS AMBROSIANA), by *Ranuccio Bianchi Bandinelli*. Pp. 182, figs. in text 77, frontispiece + pls. 50, colored pls. 4. Urs Graf-Verlag, Olten, 1955. $25.00.

Of the codex that forms the subject of this study only fifty-two fragmentary folios are extant today. Re-

moved before the thirteenth century from a manuscript which originally contained the whole Iliad, they were acquired for the Ambrosian Library by its founder, Cardinal Federico Borromeo, in 1608. On the fragmentary remains (which represent about one third of the original illuminations and one twentieth of the text) are preserved fifty-eight miniatures in relatively poor condition and the textual excerpts which appear on the reverse in Greek uncial script.

As one of the rare examples of late antique illumination, the codex has long been the object of scholarly research. It has also been fully reproduced, quite recently in a splendid facsimile in color by the Urs Graf-Verlag in 1953, and now once more, in black and white, in the latest critical study by Ranuccio Bianchi Bandinelli. The purpose of the book is to investigate the Ambrosian Iliad from the standpoint of the history of art in order to put an end to the controversy concerning the date and origin of the codex which has been waged since the earliest publication of the manuscript by A. Mai in 1819.

Before embarking on a detailed analysis of the codex itself, Professor Bandinelli discusses several problems intrinsically related to the study of late antique painting and book illumination. Among them is the frequent lack of conclusive evidence to corroborate theories on the transmission of artistic motifs. Thus conclusions must often rest on assumptions alone, as, for instance, Professor Bandinelli's explanation of the homogeneity of iconographic motifs and compositions throughout the Roman Empire in areas as far apart as Gaul and Antioch or Ostia and North Africa. It must be assumed that cartoons and art works such as sarcophagi, Emperor portraits, and coin types were circulated from various centers throughout the Empire, for it was only with the gradual breakdown of centralization in the late third century that it became more common for artisans to move from place to place in search of commissions.

The author further maintains that manuscripts played an extremely important role in the transmission of motifs, but here again arguments must be based largely on conjecture. An interesting example is furnished by a scene of Aratus and the Muse in a twelfth-century Aratus manuscript in Madrid (A.16), an exact prototype for which is found in the mid-third century mosaic of Monnus in Trier. Since the mosaic was buried from the fifth to the nineteenth century, the miniaturist of the Aratus manuscript must have derived his composition from a model which in turn was based on a classical prototype. The problem of the transmission of motifs through manuscripts is of the utmost relevance to the study of the Ambrosian Iliad, since the miniatures clearly reflect the influence of various earlier traditions.

Another general question raised in the introductory chapter concerns the need for more precise definitions of terms used in the history of art. Thus, in reference to the late Professor Charles Morey's "neo-Attic" and "Alexandrian" styles, the author asserts that classifications of this type "reveal themselves in the end to be merely theoretical schemes imposed on the rich and varied reality of historical facts and thus prevent a true understanding of the complexity of events in artistic development" (p. 22). In view of Professor Bandinelli's acknowledgement of the necessity for hypothetical reasoning as well as the nature of his own arguments for placing and dating the Ambrosian Iliad, this particular criticism does not seem entirely justified.

The author's preoccupation with terminology is readily understandable. Since the miniatures of the codex were produced during the transition period from antique to Byzantine art, they reflect elements of "Hellenistic" and "Roman" styles—interpreted by Professor Bandinelli as the preservation of organic forms versus the simpler symmetrical and hierarchical forms as exemplified, for instance, on Roman sarcophagi of the first and second centuries.

Within this overall stylistic framework Professor Bandinelli distinguishes five basic and five intermediate iconographic and compositional groupings for the miniatures, which he, like the majority of his predecessors and colleagues, attributes to a single hand. Since the illustrative scheme of the Ambrosian Iliad was clearly not created by the illuminator, an artist of rather mediocre ability, the nature of his sources remained to be established. From his groupings Professor Bandinelli concludes that a codex strongly influenced by monumental painting of the second and third centuries (which, the author claims, was produced in all likelihood in Antioch or Alexandria) served as a model for the largest single group of miniatures. While he compares the linear-illustrative quality of the miniatures with the drawings on rotuli earlier than the first century, he finds no evidence for the theory that the scenes were copied from a rotulus. The final major source consists of fourth and early fifth century iconographic elements which reflect the beginnings of Byzantine influence.

The author's attempt to locate the place of origin of the Ambrosian Iliad through comparisons with other late antique manuscripts such as the Vatican Vergil and the Vienna Genesis is relatively fruitless. Among works of art in other media, iconographic and stylistic parallels are cited, for instance, in the nave mosaics of Santa Maria Maggiore, in a late fifth century Egyptian tapestry medallion in the Brooklyn Museum, and in the diptychs of Areobindus, consul of Constantinople in A.D. 506. On the basis of these and many more comparisons, Professor Bandinelli concludes that the Ambrosian Iliad was produced in Constantinople in the late fifth or early sixth century. Despite the strong emphasis on the similarity of the miniatures to the Areobindus diptychs, on which the author's chief argument for a Constantinopolitan origin seems to rest, the comparison is not completely convincing. For notwithstanding Professor Bandinelli's firm conviction to the contrary, it still does not destroy the argument for a Western origin of the codex which was considered equally possible in Mai's publication of 1819. As was indicated in the introductory chapter, late an-

tique painting and book illumination are characterized by a marked homogeneity of iconographic motifs and compositions among works of art of different continents. The comparison of the miniatures with *Roman* catacomb paintings such as those of the Catacomb of Calixtus (ca. A.D. 400) is no less convincing than the analogies drawn with Eastern works (pls. 17, 46).

The grounds on which the author places the date of execution of the codex between 493 and 506 also seem somewhat dubitable. His preliminary conclusion dates the codex between 493 and 518 on the basis of the predominance of green in the garments of the prize-winner and participants of the funeral games in honor of Patroclus (Min. lv). He points out that the supremacy of the Greens (*prasini*), the Circus faction in Constantinople that represented merchants, bankers, and artisans, extended from 493 to 518. On the basis of the typological comparisons with the diptychs of Areobindus, the *terminus ante quem* is further narrowed down to 506. Professor Bandinelli then proceeds with the "idle speculation" that the Ambrosian Iliad may have been produced for Areobindus himself "in the same way that his wife received the illustrated Dioscurides Codex" (p. 167). Since Areobindus was a leader of the party of the nobles, the Blues (*veneti*), the author himself admits that this assumption unfortunately cannot be sustained in view of the miniaturist's preference for green in Miniature lv.

There is no doubt that Professor Bandinelli has indeed compiled an impressive array of evidence to substantiate his theory of the origin of the Ambrosian Iliad. Its validity remains to be tested by time and further research.

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THE ILLUSTRATION OF THE HEAVENLY LADDER OF JOHN CLIMACUS, by *John Rupert Martin* (Studies in Manuscript Illumination, no. 5, edited by A. M. Friend). Pp. viii + 198, pls. 112. Princeton University Press, Princeton, 1954. $25.00.

This volume, the fifth in the series of Studies in Manuscript Illumination, marks yet another significant contribution to the field of Byzantine illumination. While the text of the *Heavenly Ladder* by John Climacus has previously been published (in 1663 and 1883), the present work of John Martin is the first critical study of the pertinent illustrative material. It also contains the previously unpublished text of the Penitential Canon, a hymn in honor of the "Holy Criminals" ascribed to Andrew of Crete (ca. A.D. 700), of which the chief version is found in the Climax manuscript Vat. gr. 1754 of the twelfth or thirteenth century. Derived from the fifth chapter of the *Heavenly Ladder* ("On Penitence"), the hymn is further related to the work through analogies in its illustrative program.

The clarity of style and succinctness of presentation result in a precise, uncluttered account of the origin and significance of illustrated Climax manuscripts. In its emphasis on factual reporting, the book achieves the compactness of a descriptive catalogue; but despite the dearth of comparative material the notable absence of extraneous subject matter is in itself a highly commendable feature. The numerous excellent reproductions (three hundred and two in all) contribute further to the uniform high quality of the book.

The concept of the symbolic ladder existed already in Egyptian times. It recurs in the Biblical ladder of Jacob and in the writings of early Christian authors, as, for example John Chrysostom and Theodoret. It was only in the late sixth century, however, that the concept was formularized and given a definite structure by John Climacus, abbot of Mt. Sinai. Since the ladder was a symbol of the path of Christ, it consisted of thirty rungs leading from the "Renunciation of Life" of the first chapter to chapter XXX, "On Faith, Hope, and Charity." Among the earliest extant manuscripts of John Climacus's work is a Syriac text of A.D. 817 (British Museum, Add. Ms. 14593). Subsequent translations into Latin, Arabic, Armenian, and Russian, preserved in manuscripts dating at least from the thirteenth century on, attest to the lasting popularity of the work.

Although the illustrative programs of the Climax manuscripts differ considerably, the textual content remained relatively uniform. Aside from the *Heavenly Ladder*, the majority of manuscripts also contain the correspondence of John Climacus with John, abbot of Raithu, at whose instigation the work was evidently composed, and Daniel of Raithu's account of John Climacus's life. Another common feature was the representation of the Heavenly Ladder at the beginning or at the end of the text and, somewhat less frequently, the portrait of the author.

Of the two traditional methods of representing the ladder, the earlier is exemplified in a tenth-century Climax manuscript (Sinai gr. 417), where the ladder appears as part of the table of contents in a perpendicular position in the margin. A more complex composition, evolved in the eleventh century, shows the ladder leaning diagonally across a full page miniature (Vat. gr. 394, f. Fv). On various levels were depicted the ascending monks. For those who deviated from the righteous path a dragon was waiting at the base of the ladder. The dragon motif, which replaces the traditional figural personification of Hell, is a borrowing from a Last Judgment scene, where a monster of this type is frequently shown devouring the damned. The inventiveness revealed in this motif as well as in the representation of the falling monks, neither of which is mentioned in the text, is particularly noteworthy in view of the generally accepted theory of the immutability of Byzantine iconography, based primarily on Biblical rather than monastic or patristic illuminations. An interesting example of Byzantine influence on Western illumination is the full-page illustration of the Ladder of Virtue in the *Hortus Deliciarum* of Herrad of Landsberg, which is an elaborated copy of the Heavenly Ladder as represented in By-

zantine manuscripts since the eleventh century (fig. 297).

A dual tradition also exists among the representations of the author portrait. The tenth century tradition of portraying the author as a bust within a medallion was superseded in the eleventh century by a full-page representation of a seated figure writing—a pose probably derived from the evangelist portrait of Saint Luke.

Among the relatively limited number of extant Climax manuscripts containing cyclical illustrations, Professor Martin has established three iconographic traditions, whose origins he also ascribes to the eleventh century. While influenced in varying degrees by Biblical illumination (particularly the monastic Psalters), two of the recensions—exemplified by the Princeton Climax of 1081 (Garrett Collection of Mediaeval and Renaissance Manuscripts, No. 16) and Vat. gr. 394 of the late eleventh century—clearly reflect a dependence on a lost cycle of scenes of eremetical life. The miniatures of the third recension, preserved in Sinai gr. 418 of the twelfth century, were predominantly derived from New Testament iconography.

The total number of manuscripts containing at least two illustrations is listed in a descriptive catalogue in the final chapter. It is significant that no less than fifteen of the thirty-two manuscripts were produced in the eleventh and twelfth centuries, a period characterized by a revival of monastic asceticism. Most clearly exemplified in the works of St. Symeon the Younger (d. 1022) and his disciples, the spirit of monastic reform was reflected in the arts by an increasing emphasis on representations of monks and monastic life; stylistically, the attenuation and flattening of forms which became more and more evident in the course of the eleventh century may be attributed in large part to the influence of the ascetic movement.

In his study of Climax manuscripts Professor Martin has concentrated his attention on the dating of iconographic traditions. In contrast, his discussion of provenance and style appears somewhat cursory. Despite this discrepancy, however, this publication should be of exceeding interest to scholars in the field.

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L'ARCHITECTURE MUSULMANE D'OCCIDENT: TUNISIE, ALGÉRIE, MAROC, ESPAGNE, SICILE, by *Georges Marçais*. Gouvernement Général de l'Algérie: Direction de l'Intérieur et des Beaux-Arts, Antiquités et Monuments historiques. Arts et Métiers Graphiques, Paris, 1954. Fr. 4000.

Everybody familiar with Georges Marçais's *Manuel d'art musulman: l'architecture: Tunisie, Algérie, Maroc, Espagne, Sicile*, two volumes, Paris 1926-1927, has been waiting eagerly for its second edition. It was published two years ago in a different format, larger and wider than the first edition and under a new title, as indicated above. It covers the same territory as the first edition. Tripolis and the Portuguese Mudéjar style are not included.

The last twenty-five years have added substantially to our knowledge of Muslim architecture in the West (Arabic: Maghreb), thanks to a number of scholars, including Marçais himself. The *avant-propos* of our book sums up the important books and articles that have appeared since 1927. These publications have made it necessary to rewrite some chapters extensively and add new illustrations, which are a great improvement on those of the first edition. There is still a great need for more groundplans.

The general structure of the book is commendable. Historical, structural, and decorative facts of different types of buildings, religious, civil, and utilitarian, are presented with great clarity and a fine economy of words. Each chapter ends with a summary (*conclusion*), and it is to this that the non-specialist might give his attention, perhaps even before he turns to the individual buildings. Chapters one to three cover the late eighth, the ninth, and the tenth centuries, a period one is tempted to call archaic: "Les Royaumes musulmans du IX^e siècle," "Le Domaine des Fatimides," and "L'Espagne des Omeiyades." The Almoravids and the Almohads form a kind of climax. They are dealt with in chapter four, "Les Royaumes espagnols et les empires hispano-berbères du XI^e au XII^e siècle." Chapter five is "Les Dynasties héritières des Almohades aux XIII^e et XIV^e siècles." Chapters six to nine deal with the Mudéjar style, the Sherîfs of Morocco, Turkish Algeria, and Tunisia under the last Hafsids and the Turks.

The author's comparison of the style of the ninth century with French Romanesque ought, perhaps, to have been based less on the mixture of classic and oriental offered by both styles than on a certain disorderly ferocity of decoration which they have in common (cf., e.g., the prayer niche [mihrāb] of the Sīdī 'Oqba mosque of Qairawān and the façade of the church of Poitiers), a ferocity which contrasts with the geometry of the plan. While the square minaret certainly derives from the Roman watch tower in Syria it is about the only feature of whose derivation we can be absolutely sure. Nobody any longer suspects the Egyptian temple or the Roman house of being the prototype for the court of the mosque (ṣaḥn). The prayer niche (mihrāb), Marçais reminds us, is, after all, common to several religions, including Buddhism and Judaism, but in the final analysis he feels that the resemblance between the Coptic apsis and the early Islamic prayer niche is too close to be ignored. On the other hand, it is hard to see the plan of the Christian basilica as the prototype for the aisles of the mosque running perpendicularly to the end or qibla wall. The strange T-shaped groundplan together with the aisle formation already exists in the ninth century and is retained almost throughout all periods in the Maghreb, with some significant exceptions. The cupola in front of the prayer niche is also a typical feature.

Vaulting becomes important in the tenth century but disappears later.

The tenth century has no great monuments comparable to the Mezquita of Cordova and the Sīdī 'Oqba of Qairawān. There is no real summary at the end of this chapter (III). The author expects much to come to light in the near future. Fāṭimid style of the tenth century is still archaic, as said before. The famous entrance porch of the great mosque of Mahdīya lacks integration with the rest of the building and could be compared with the porch of St. Gilles. With the fourth chapter we come upon the Berbers. They play a role in Africa comparable to that of the Turks and the Mongols in the East. Both are newly converted, fanatic invaders. There are waves of invasion. The veil-wearing Almoravids are from the Sahara, and the Almohads call the Atlas Mountains their home. Cordova is no longer the great artistic center of the Maghreb, but it is the Spanish-Mauresque style with Cordova as its former center that spreads all over and soon takes on a uniformity that will later be stereotyped and overdecorated. H. A. R. Gibb finds that this is the fate of almost all Arabic literary styles as well. The gabled roof of red tiles over each aisle, the minaret, still square but decorated with a network that gets lacier and lacier, and no longer in the axis of the prayer niche but at the right of a magnificent entrance portal—all these elements are part of a very attractive formula. The stalactite vault (muqarnas), which already appears in isolated fashion under the Fāṭimids, becomes a very important feature—not a foreign, imported detail but a harmonious and expressive part of the whole. In chapter five two centers require our attention, Fez with its medersas (called madrasas in the East, or theological seminaries) and Granada with its Alhambra. The medersas have their court façades transformed into non-structural lace curtains. The mechanical repetition of walls with lozenges is equally tiring at the Alhambra, but both centers excel in superb proportions and ingenious planning. The author becomes quite lyrical when he speaks of this Granada fortress, and rightly so, but when he compares the medersa Bū 'Inānīya of Fez with the Ḥasan mosque of Cairo this reviewer finds it difficult to agree with him.

What follows now will not be summed up here. Even Marçais speaks of decadence. The Turkish mosque which finally replaces the buildings of artistically impotent dynasties will be of interest to the student of Turkish art. There is no longer any connection with the native style.

In a study such as this, which covers so much ground, one hesitates to bring up small points that were of concern to this reviewer. *The origin of the stalactite (muqarnas) motif.* Like Marçais, Creswell traces this feature from Persia to Egypt, but he mentions the al-Guyūshī mosque (A.D. 1085) as having the earliest muqarnas in Egypt, instead of the later Aqmar mosque Marçais names. Al-Guyūshī was built by a wazīr from Armenia. One wonders about the groin vaults of al-Guyūshī and those of Sfax. Some day additional material may tell us whether or not there is a common origin. The groin vault is unpopular in the Maghreb. It more or less disappears after the Fāṭimids. *The portal of the great mosque of Mahdīya.* Both Creswell and Marçais think of the Roman triumphal arch as the prototype. That a free-standing monument like the triumphal arch should become the prototype for an entrance to a mosque seems very unlikely, especially since there is nothing but the tripartite division that they have in common. If there is a prototype, why not think of Raqqa and its gate? What should be stressed is that for the first time in North Africa an entrance gate becomes important enough to serve as a prototype for many later portals. *The bent entrance.* Like the stalactite vault, the bent entrance is a typical oriental feature. Creswell (*Early Muslim Architecture* II [1940] 27ff) makes a real study of it and finds that its use in fortifications does not become widespread until the twelfth century. This is true of North Africa, too; cf. e.g. Bāb ar-Ruāḥ of Rabāṭ. There is, however, another use of the bent entrance which Creswell disregards and Marçais only mentions in passing, that in private houses. It has not been pointed out that it occurs in early Muslim private houses of Ktesiphon (E. Kühnel and others, *Die Ausgrabungen der zweiten Ktesiphonexpedition*, Berlin 1933, p. 10, fig. 5); it occurs several times in one of the palaces of the Qal'at Benī Ḥammād, the Dār al-Baḥr, not so much as a protection against enemies as for reasons of privacy. A very narrow bent entrance protects the harem. This interesting aspect of this architectural feature Creswell omits in his studies. In our book it is mentioned but not indexed. *The great mosque of Sūsa.* The author discusses on p. 24 the plan of this mosque but by some slip failed to bring his description of the plan up to date. The plan consists of ninth-century and later parts. P. 72 brings the discussion of the later part, this time correctly but without referring to the ninth-century part. *The portal of San Esteban, Mezquita of Cordova.* The documentary reference to the portal's date of A.D. 855, which our author cites, does not exclude the probability that the stepped gables at the portal go back to 'Abd ar-Raḥmān I, the founder of the mosque (A.D. 785). The comparison with Palmyra that Creswell makes but Marçais disregards makes this highly probable. At any rate, the main part of the portal and the two stepped gables flanking it are stylistically irreconcilable.

Bibliography. To a very rich and on the whole thorough bibliography only a few additions should be made here. For the *Conventual de Mérida* add Creswell, *op.cit.* II, pp. 197-205. For the ceiling of the Capella Palatina, Palermo, add R. Ettinghausen, "Painting in the Fāṭimid Period," *Ars Islamica* 9 (1942) 112-124. For Spanish influence in Morocco, L. Torres Balbás, "Arquitectos andaluces de las épocas almorávide y almohade," *Al Andalus* 11 (1946) 213-224. For the quibla wall see H. P. J. Renaud, "Orientation du miḥrāb dans les mosquées," *Isis* 34 (1942) 24. Marçais mentions bibliographies but might

have added L. Torres Balbás, "Bibliography of Spanish-Muslim Art, 1939-1945 (in Spanish publications)," *Ars Islamica* 15-16 (1951) 165-177, and J. Sauvaget, "L'Archéologie musulmane en France de 1939-1945," *Ars Islamica* 13-14 (1949) 150-161. There are practically no misprints. P. 79: *for* fig. 39 *read* fig. 40. P. 205, plan of the Patio de las Arrayanes: *for* Alberra *read* Alberca.

If one reviews the four hundred odd pages of *L'Architecture musulmane* and reflects on the enormous amount of material covered, one is grateful to the author for the lucidity of his descriptions and the stimulating discussions of the "Conclusions." When all is said and done this book should remain a valuable guide to scholars for a good many decades.

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La Mosquée de Hassan à Rabat, by *Jacques Caillé*. 2 Volumes. Pp. 172, figs. 63, pls. 48. Arts et Métiers graphiques, Paris, 1954.

This fully documented, handsomely presented study details fully a monument of major importance without, however, altering sensibly the description and interpretation of its principal features given as long ago as 1926 by Georges Marçais in the *Manuel d'art musulman*. The first volume contains 43 figures in the text and 48 heliogravure plates, while the second volume includes figures 44-63, providing beautifully executed plans, elevations, and sections of the structure. There is a short bibliography of 12 items, six of which were written by the author or his associates, and an index. The publication is whole Volume LVII of the Publications de l'Institut des Hautes-Études Marocaines.

The author deals with an almost completely ruined monument which was the largest religious structure of the Moslem West covering, as it did, an area of six acres and displaying more than 400 columns or pillars. Built between A.D. 1184 and 1199 during the reign of the Almohad caliph Abu Yusuf Yacub el-Mansur, the structure bore from the beginning the name of the mosque of Hassan, or Hasan: contemporary historians fail to explain this name since the monument was probably the Masjid-i-Jami', or Congregational mosque, of the town. Indeed, its vast area indicates that it served the requirements for congregational prayer of Almohad troops, and the suggestion has been made that the mosque was fortified.

As it slowly disintegrated throughout the centuries, the mosque gave up great beams of cedar for building warships and brick and cut stone for later building in the vicinity. In time the monument became known as the Tower of Hassan, since its square minaret rose to a height of 45 meters and was clearly visible to ships approaching the port of Rabat.

The author and his architect, Jean Hainaut, resumed work at the mosque following excavations undertaken in 1914-15 and 1933-34. Their own excavations were carried out in 1943-44, 1948, and 1953 and served to clarify the entire plan, to indicate that the structure was never finished as planned, and to define certain structural alterations. These excavations appear to have been carefully done and meticulously recorded, and the diggers themselves are rather critical of the somewhat more casual methods of their earlier compatriots. Incidentally, it would be of interest to establish the relationship between the Lieutenant-Colonel and Madame Dieulafoy who dug at the site in 1914 and the Marcel and Jane Dieulafoy who pioneered in recording monuments of Iran in the 1880s and 1890s.

As originally constructed the monument represented the extreme effort of Almohad art. A variety of materials were employed: concrete, dressed stone, brick, wood, and plaster. Several stylistic influences and techniques mingled in the decorative details. They survive clearly in the decoration of the minaret—column capitals, interlace ornament in stone, and suspended vaults in plaster. One of the vaults in particular—that in the fourth story—would reward additional study as to its prototypes and later development.

The restored plans, elevations, and sections of J. Hainaut deserve specific commendation. His proposed elevations and sections are somewhat imaginative—given the lack of surviving superstructure—but they are based soundly upon his familiarity with the better preserved monuments of the region and represent sound contributions. Jacques Caillé himself has been prominent as a historian of Morocco but in this full length venture into the field of archaeology he has displayed commendable exactitude and analytical judgment. The work is quite free from misprints and other errors. It is, however, disconcerting to read on the opening page of the first chapter that the period of construction of the mosque was "la seconde moitié du XIVe siècle" when at all other points in the book it is stated that the mosque was erected prior to A.D. 1200.

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ILLUSTRATIONS

FIG. 1. Wilton House; Head of Young Pan, Polyclitan type

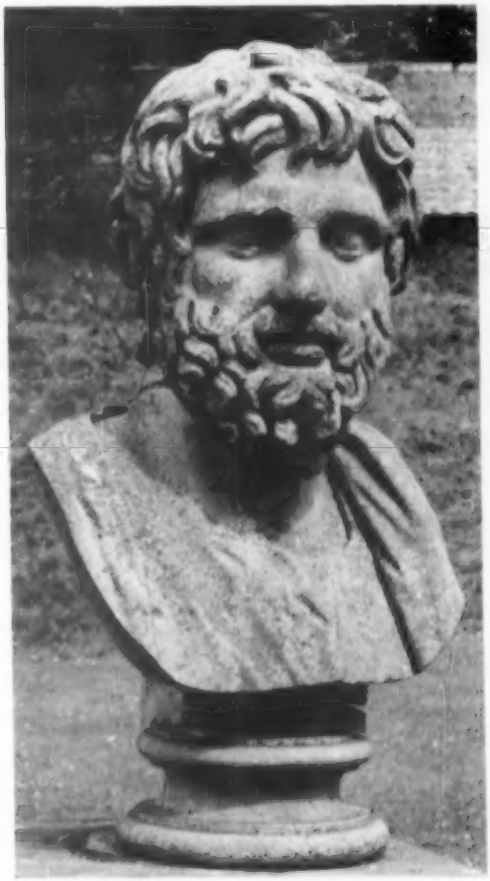


FIG. 2. Knole: Hadrianic Head of Divinity, probably Zeus

FIG. 3. Kingston Lacy: Fragment of a Greek Documentary Relief

FIG. 5. Wilton House: Replica of the Head of the Pothos of Skopas

FIG. 4. Stourhead: Small Statue of Zeus, of a type attributed to Leochares

FIG. 6. Wilton House: Archaistic Statue of Hermes Kriophoros

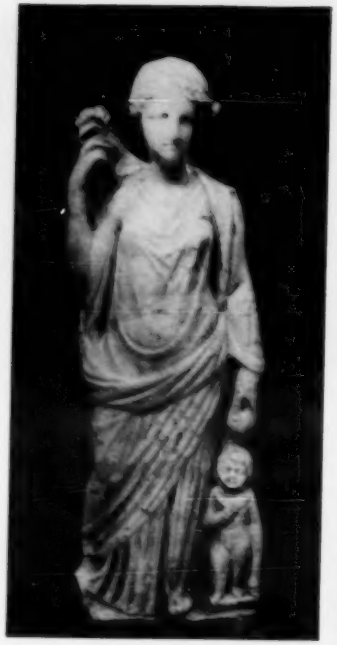


FIG. 7. London, Spink and Son: Statuette of the type identified as Venus Genetrix

FIG. 8. London, Spink and Son: Melchett Statue of Herakles

FIG. 9. Knole: Eros asleep upon the Attributes of Herakles

FIG. 12. Chatsworth: Roman Cinerary Chests

FIG. 10. Warwick Castle: Marble Vase, composed of fragments from Hadrian's Villa

FIG. 11. Syon Lodge, from Lansdowne House: Sepulchral Altar of the Child Claudius Hyllus

FIG. 13. West Wycombe Park: Child's Sarcophagus with Erotes and Psyche enacting the Meleager Myth

FIG. 14. Blenheim Palace, in the Water Garden: Oval Sarcophagus Front with Bacchus and Ariadne on Naxos, and the Banquet of Hercules

FIG. 15. Wilton House, Courtyard: Sarcophagus with Meleager Sacrificing, Dioscuri, etc.

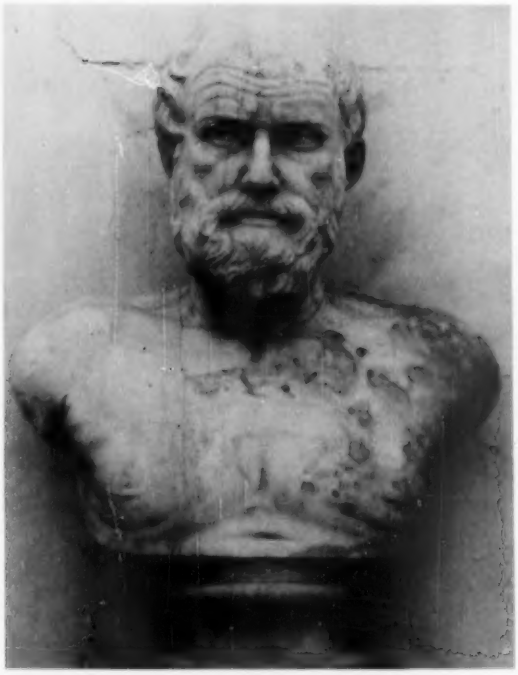


FIG. 15 bis. Stratfield Saye: Bust of Lysias

FIG. 17. Kingston Lacy: Head of Arsinoe II, from Alexandria

FIG. 18 Kingston Lacy: Green Basalt Bust from Canopus, perhaps Marcus Antonius

FIG. 19

FIG. 20 Knole: Hadrianic Copy of a Head of a Roman of the Late Republic

FIG. 21

FIG. 22 Knole: Head Pendant to the one above, also from Villa Adriana

FIG. 23

FIG. 24. Stourhead, in the Pantheon:
Statue perhaps representing
a Julio-Claudian Princess as Ceres

FIG. 25. London, British Museum:
Statuette of L. Julius Magnus

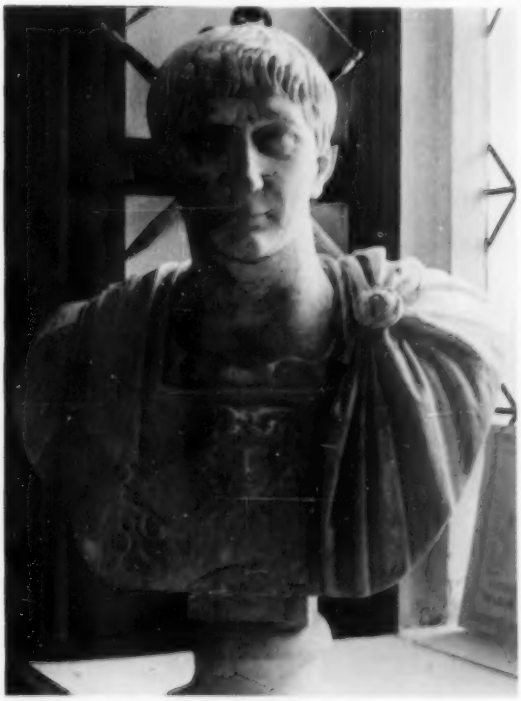


FIG. 26. Warwick Castle: Bust of the Emperor Trajan

FIG. 27. Blenheim Palace:
Bust of the Emperor Hadrian

FIG. 28. Knole: Head from a Statue of Antinous

FIG. 29. London, A. Spero, Esq.: Shobden Court, Bust of Polydeukion

FIG. 30. London, K. J. Hewett: Head of the Young Caracalla

FIG. 16. Blenheim Palace: Bust of Alexander the Great

FIG. 31. Wilton House, Courtyard: Detail of a Sarcophagus, Medallion Busts of the Deceased

Figs. 32 and 33. Maplewood (N.J.), Joseph V. Noble, Corinthian Amphora

Fig. 43. Havana, El Conde de Lagunillas. Oinochoe

Figs. 34 and 35. Kings Point, Christos Bastis. Amphora signed by Andokides, details

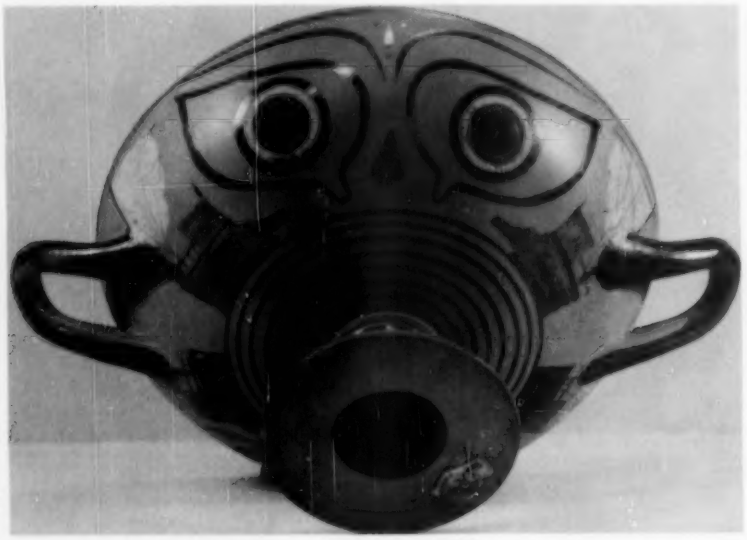


Fig. 38. Kings Point, Christos Bastis. Eye Cup

Figs. 36 and 37. Bristol Museum and Art Gallery. Neck-amphora H 802

Figs. 39 and 40. Portland Art Museum. Neck-amphora 35.137

Figs. 41 and 42. Indianapolis, John Herron Art Institute. Neck-amphora 47.42

Figs. 44 and 45. Maplewood (N.J.), Joseph V. Noble. Pelike

Fig. 46. Petworth House. Bell-krater

FIGS. 48 and 49. Petworth House. Pelike

FIG. 47. Petworth House. Bell-krater

a b

FIG. 1. Red Slip II (IV) Ware Jug (a) and Black-on-Red IV Ware Jug (b)

FIG. 2. Red Slip II (IV) Ware Jug

FIG. 3. Black-on-Red IV Ware Jug (1b)

Photographs from the Metropolitan Museum, New York

Fig. 4. White Painted III Ware Jug

Fig. 5. Bichrome IV Ware Jug

Fig. 6. Detail of Bichrome IV Ware Jug

Photographs from the Department of Antiquities, Cyprus

FIG. 1. Ivory Figurine of a Seated Goddess. Kültepe, Karum level I b

FIG. 2. Mold for lead Figurines. Kültepe, Karum level I b

FIG. 3. Beaked Pitcher. Kültepe, Karum level I b

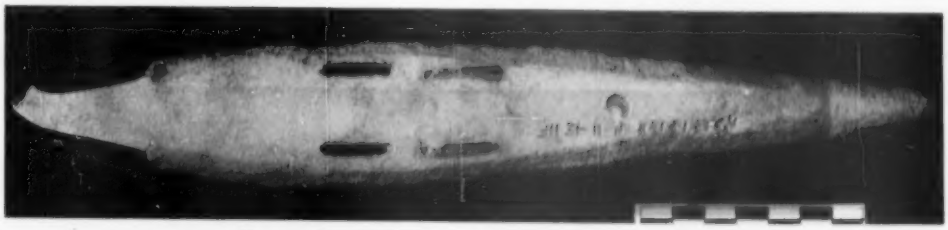


FIG. 4. Bronze inscribed Dagger from the City Mound at Kültepe

FIG. 5. Beycesultan. Street on the Palace Enclosure level II. Megaron on the left

FIG. 6. Beycesultan. Carved ivory Stamp-seal from level I b and stone Mold for a bronze Seal with cast, L.B.

FIG. 7. Beycesultan. Painted "depas amphikypellon" from level VI

FIG. 9. Domuztepe. Basalt Orthostat

FIG. 8. Domuztepe. Gate Lion B. Dark gray basalt

FIG. 10. Xanthos. Black-figure Amphora, earliest Attic import

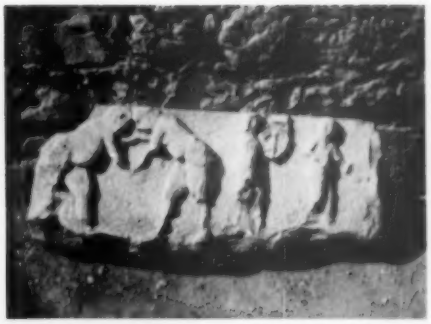


FIG. 11. Xanthos. Archaic Relief

FIG. 12. Xanthos. Frieze block of inscribed pillar Tomb

FIG. 14. Xanthos. New block belonging to Tomb of Payava

FIG. 13. Xanthos. Pillar Tomb and rockcut Tombs on second Acropolis

FIG. 15. Xanthos. Lid of Sarcophagus

FIG. 16. Xanthos. Excavations South of Nereid Monument

FIG. 17. Side. Statue of Nike

FIG. 18. Perge. Statue of Woman with Child in her lap

FIG. 19. Ephesus. Statue of Scholastikia, re-erected

FIG. 20. Ephesus. Cult room of Hestia Boulaia at beginning of excavations

FIG. 21. Nemrud Dağ. Rock-cut processional way, West Terrace. Tumulus to West (left)

FIG. 22. Nemrud Dağ. Rock-cut processional way, West Terrace. Tumulus to right

FIG. 23. Nemrud Dağ. Retaining-wall of tumulus and processional way, Northwest side

FIG. 24. Nemrud Dağ. East Terrace. East side of trial trench, robbers' hole

FIG. 25. Nemrud Dağ. West Terrace. Three-headed guardian Lion, back

FIG. 26. Nemrud Dağ. West Terrace. Three-headed guardian Lion, detail of back

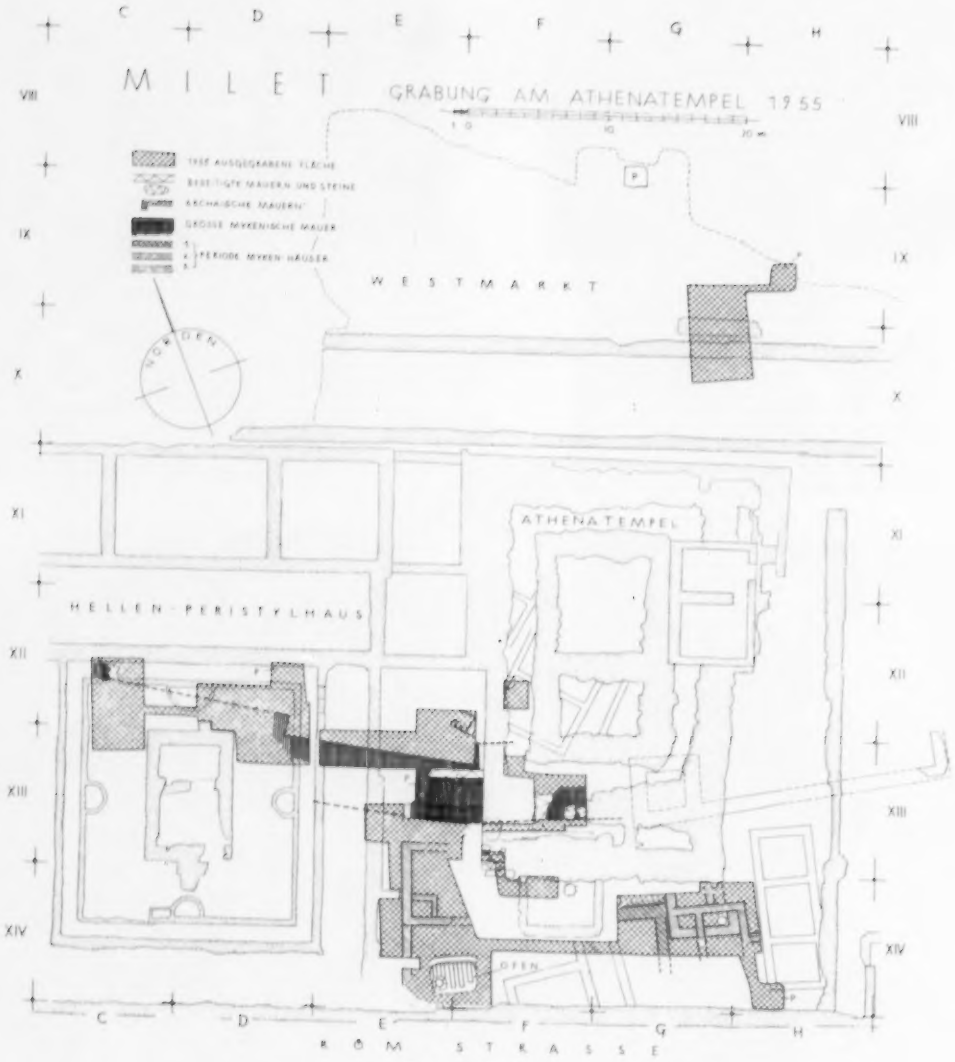


FIG. 27. Miletus

Fig. 1. Theater D

Fig. 2. Theater D

Fig. 3. Basilica C

Fig. 4. Curium House E

Fig. 5. Turkish House F

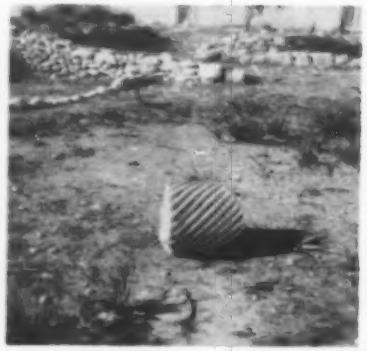


Fig. 6. Ayios Ermoyenis G

Fig. 7. Demeter A

Fig. 8. Demeter B

FIG. 9

FIG. 10

Medelhavsmuseum, Stockholm

FIG. 11

FIG. 12

Salamis, Cyprus

FIG. 1. Paestum: Paestan Hydria with apparently the Myth of Electra

FIG. 4. Paestum: Plain Ionic Spherical Lekythos

FIG. 2. Paestum: Paestan Lebes Gamikós

FIG. 3. Paestum: Attic black-figured Pelike

FIG. 5. Paestum: Sporadic Find, Plastic Ionic Vase

Figs. 1-8: Courtesy of P. C. Sestieri

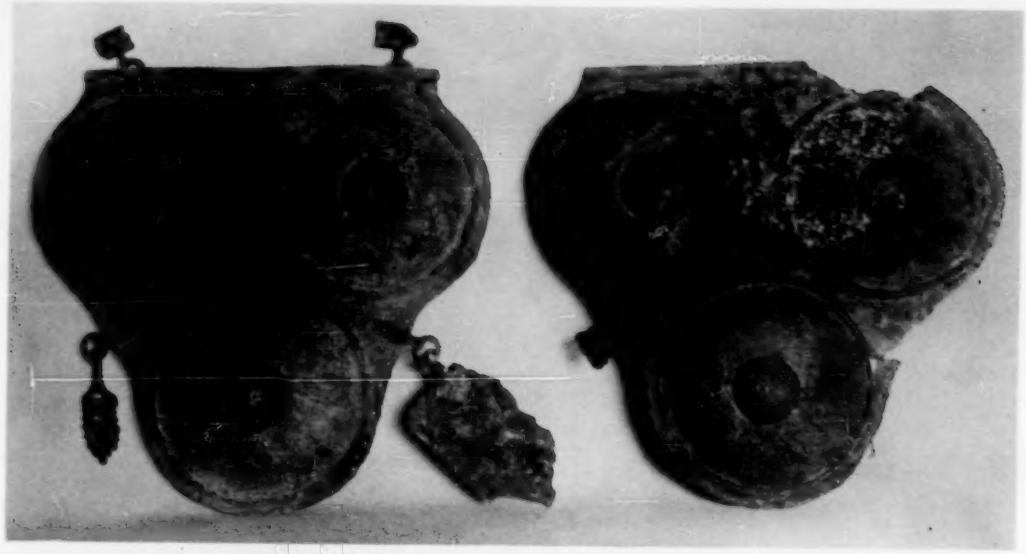


FIG. 6. Paestum: Breastplate from Lucanian Tomb

FIG. 7. Palinuro: Indigenous Ware

FIG. 8. Palinuro: Indigenous Ware

FIG. 9. Fratte di Salerno: Excavations in Progress on the Upper Plateau of the Acropolis

FIG. 10. Padula: Bronze Vases from the Graeco-Italiote Necropolis, Sixth Century B.C.

FIG. 11

FIG. 12

Sala Consilina: Equipment of two Cremation Tombs of the Eighth and Seventh Centuries B.C.

FIG. 13. Locri Epizephyrii, Marazà: General View of the Two Temples

FIG. 14. Locri Epizephyrii, Marazà: Terracotta Revetment from the Archaic Temple

Figs. 9-12: Courtesy of V. Panebianco *Figs. 13-15: Courtesy of A. de Franciscis*

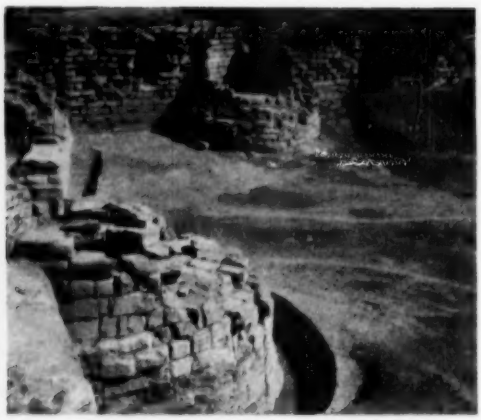


FIG. 15. Castiglione di Paludi: The Principal Gate

FIG. 16. Etruscan Road outside Veii
Courtesy of J. B. Ward Perkins

FIG. 17. Bolsena: Vases and Fibulae from Tombs

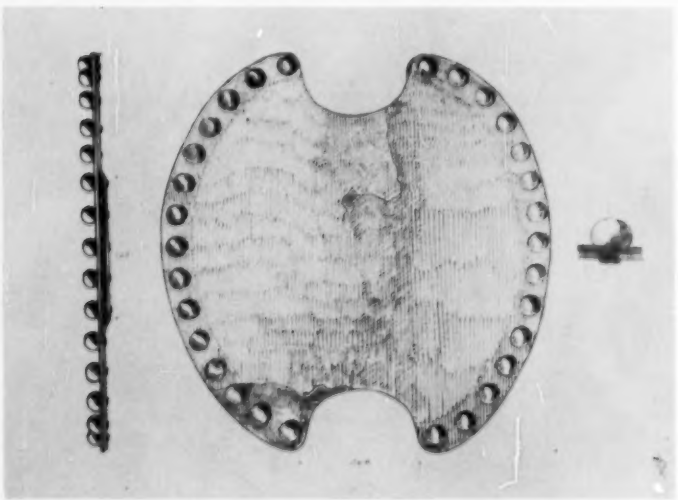


FIG. 18. Bolsena: Bronze Shield

Figs. 17-18: Courtesy of J. Bayet

FIG. 19. Fiesole: Exterior of back wall of Temple, showing the two Periods of Construction

FIG. 20. Serre di Rapolano: Roman Parade Helmet

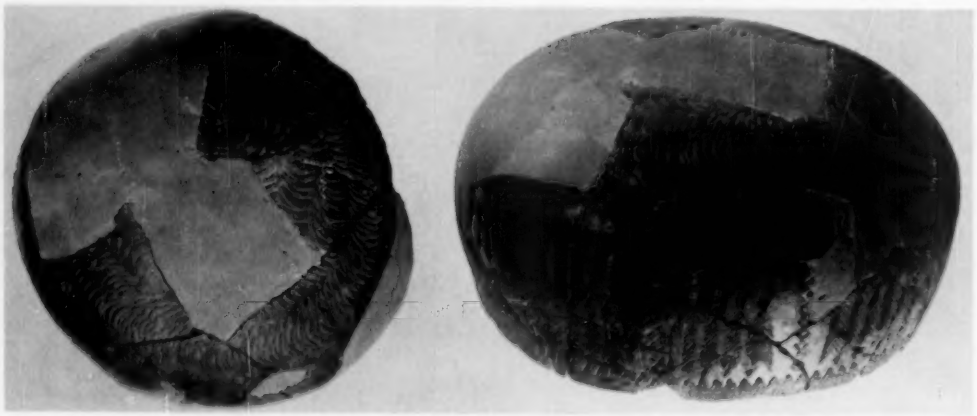
FIG. 21. Populonia: Bronze Finial of Pole of Chariot

Figs. 19-21: Courtesy of G. Caputo

FIG. 24. Sicilian Naxos: Foundations of the City Wall, near the Point of Cape Schisò

FIG. 22. Iesolo: Inscription of a *Collegium*
Courtesy of A. Degrassi

FIG. 23. Theater of Albintimilium
Courtesy of N. Lamboglia



FIGS. 25 and 26. Sicilian Naxos: Side and Bottom of Bowl with impressed Ornamentation of the Culture of Stentinello

Figs. 24-29: Courtesy of G. V. Gentili

FIG. 27. Sicilian Naxos: Street and Remains of Houses of the Early Fourth Century B.C.

FIG. 28. Taormina: Great Theater as Reconditioned

FIG. 29. Taormina: Great Theater as Reconditioned

FIG. 30. Megara Hyblaea: Fortification

FIG. 31. Megara Hyblaea: Archaic Relief of Horseman

Figs. 30-31: Courtesy of J. Bayet

FIG. 32. Piazza Armerina: Original Mosaic showing "Fausta"

Courtesy of G. V. Gentili

FIG. 33. Scornavacche: Plan of Greek Settlement of the Fourth Century B.C.
Courtesy of A. Di Vita

FIG. 1. Architrave Blocks Tentatively Recomposed in 1908 (looking West)

FIG. 2. East Architrave Block J

FIG. 3. West Architrave Fragment D_4 Inserted Between D_1 and D_2

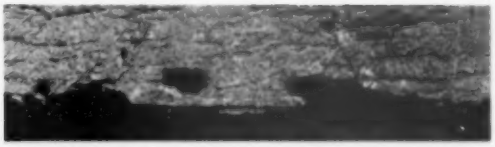


FIG. 4. Dowel Holes *b*, *c*, *d* on Top of East Architrave K

FIG. 5. Front Face of Northeast Corner Backer A

FIG. 6. Front Face of Southwest Corner Backer C

FIG. 7. Front Face of West Backer K

FIG. 8. Rear Face of West Backer G

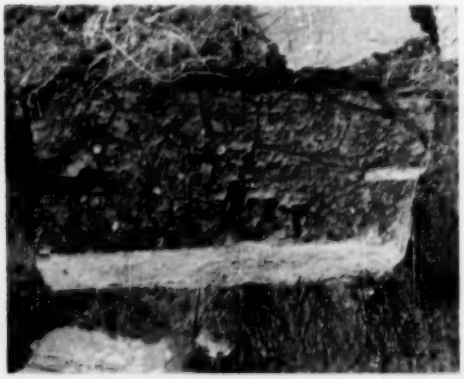


FIG. 9. Top of West Backer H, looking down front face

FIG. 10. Top of South Backer P, looking down rear face

FIG. 11. West Slab No. 529 with Right-hand Dowel and Protruding Sculpture, and Broken Left End of No. 530

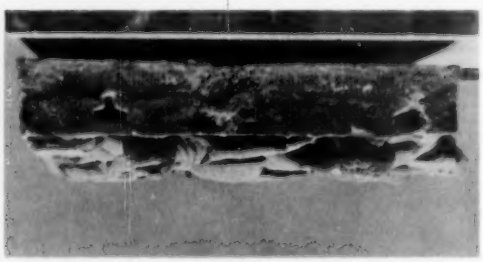


FIG. 12. Top of North Slab No. 520 with T Clamps (modern stone backing)

FIG. 13. Bottom of No. 520 with Bored Lifting Holes (modern stone backing)

FIG. 14. West Slabs Nos. 529 + 522 as Joined (1932)

FIG. 15. Northwest Corner Slabs Nos. 530 + 520 as Joined (1939)

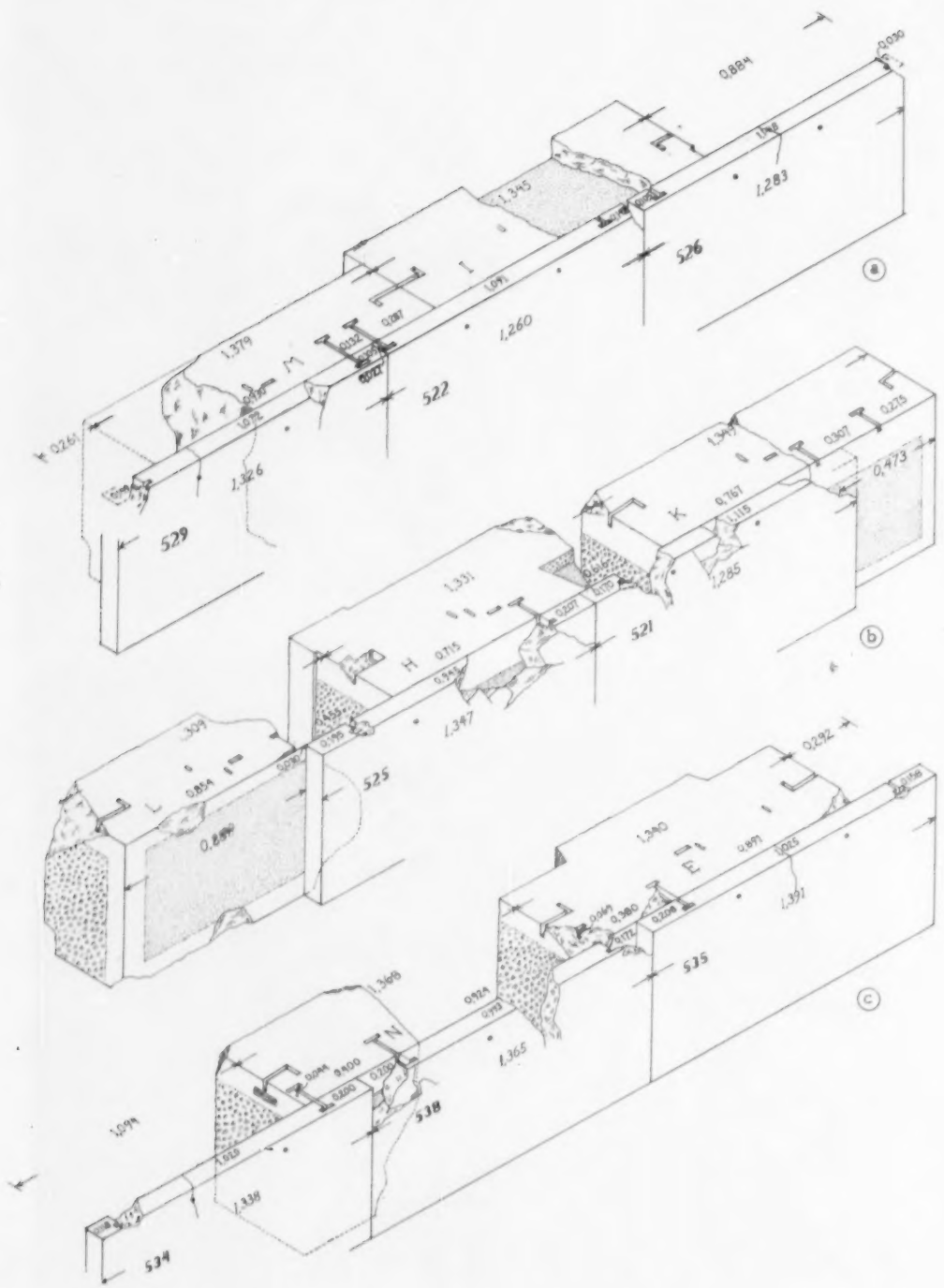


Fig. 16. Examples of Frieze and Backer Reconstructions
(a) West Backers M + I with Slabs Nos. 529 + 522 + 526
(b) West Backers L + H + K with Slabs Nos. 525 + 521
(c) East Backers N + E with Slabs Nos. 534 + 538 + 535

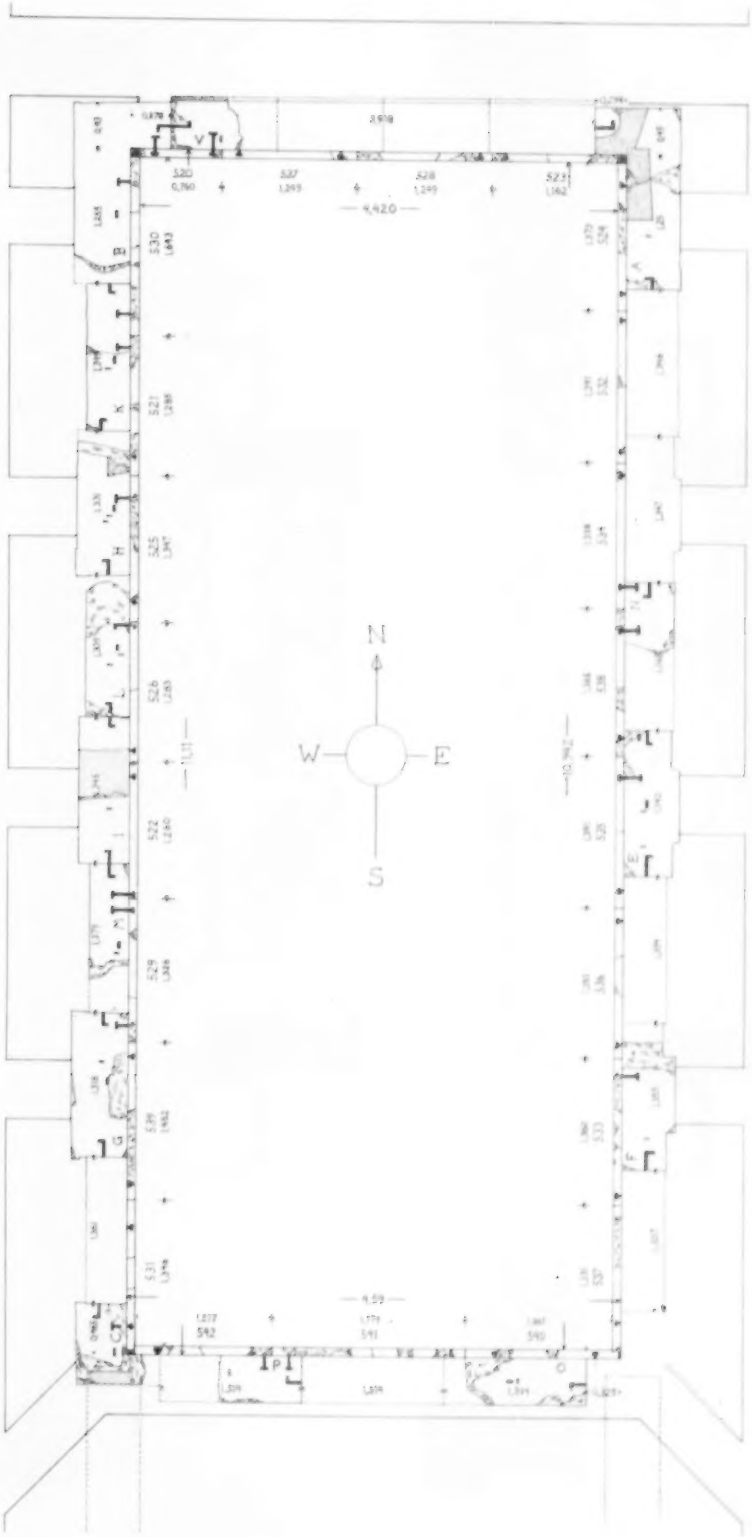


FIG. 17. Plan of Frieze Backers and Sculptured Slabs

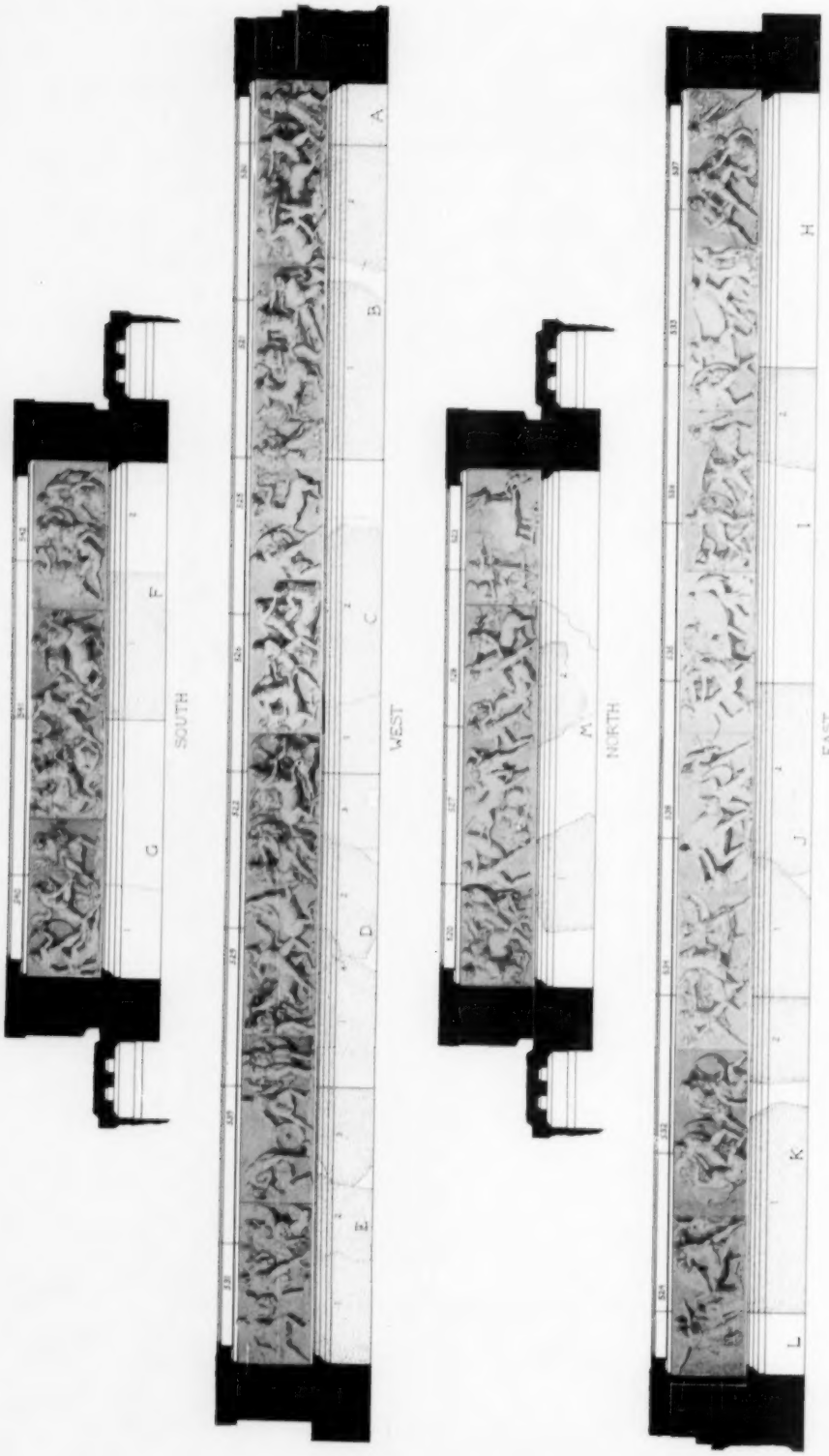


FIG. 18. Restoration of the Internal Frieze at Bassae

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Volume VI. THE FARWELL COLLECTION. By Franklin P. Johnson. Cambridge, Massachusetts, 1953. 76 pages, 90 illustrations. Price (postpaid): $4.15 (to members of the Archaeological Institute of America and of the College Art Association of America, $3.15).

DEDICATIONS FROM THE ATHENIAN AKROPOLIS. A catalogue of the inscriptions of the sixth and fifth centuries B.C. By Antony E. Raubitschek. Cambridge, Massachusetts, 1949. 545 pages, 338 figures in text. Price (postpaid): $15.00.

RELATIVE CHRONOLOGIES IN OLD WORLD ARCHEOLOGY. Edited by Robert W. Ehrich. Published by the University of Chicago Press in cooperation with the American Anthropological Association and the Archaeological Institute of America, Chicago, 1954. 154 pages; maps and drawings. Price (postpaid): $2.50 (for members of the Archaeological Institute of America, $1.50).

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